THE LOS ANGELES ASTRONOMICAL SOCIETY

MARCH, 2021
VOLUME 95, ISSUE 03

THE BULLETIN

In This Issue

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

communications@laas.org

Image credit: NASA/JPL-Caltech

February 18, 2021

Members of NASA's Mars 2020 Perseverance rover mission were jubilant on Feb. 18, 2021, after the spacecraft successfully touched down on Mars. They are in Mission Control at the Jet Propulsion Laboratory in Southern California.

Learn more about the mission by following one of the links below:

mars.nasa.gov/mars2020/

nasa.gov/perseverance

https://mars.nasa.gov/#

Upcoming Virtual Club Events

Board Meeting; Mar. 3, 2021

General Meeting; Mar. 8, 2021

New Contact Info For 2021?

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

secretary@laas.org.

NSN Webinar Series: What to Expect from the James Webb Space Telescope

Join the NASA Night Sky Network on Tuesday, March 23 at 6pm Pacific (9pm Eastern) to hear Dr. Kelly Lepo update us with the latest on the James Webb Space Telescope.

The James Webb Space Telescope is NASA's next flagship space observatory, which will launch in October 2021. In this presentation, Dr. Lepo will discuss the science and challenges of infrared astronomy, as well as the big questions that the Webb telescope will help to answer: What were the first galaxies like? How do galaxies change over time? How do stars and planets form in those galaxies? What are the atmospheres of planets around other stars made of?

She will also discuss what to expect in the 6-months after launch, as controllers carefully unfold and prepare the telescope to take its first science images. You will also learn how you can host your own event celebrating the Webb launch, deployment or first images.

About Dr. Kelly Lepo:

Dr. Kelly Lepo is an Education and Outreach Scientist at the Space Telescope Science Institute, where she works to support outreach efforts for the upcoming James Webb Space Telescope. She has a PhD in Astronomy and Astrophysics from the University of Toronto. She has made numerous local and national media appearances to talk about everything from the 2012 Mayan Apocalypse to the Super Blue Blood Moon. She has also served as the Coordinator of the McGill Space Institute, designed undergraduate teaching labs, taught physics at Gonzaga University, and helped build the Large Hadron Collider at CERN.

Registration and Additional information:

Night Sky Network members can find more information and a link to register in advance for this webinar (login required) on the Outreach Resource page.

Further Information and Additional Viewing Options:

Night Sky Network members can find more information and a link to register in advance for this webinar (login required) on the Outreach Resource page.

The event will also be streaming live on YouTube, but please note that questions asked over the NSN-members-only Zoom Q&A will be prioritized.

Link: Forthcoming

The recording will be uploaded both to the webinar's resource page and to the NSN YouTube page for folks that are unable to attend this evening's session.

Date: Tuesday, 3/23/2021

Time: 6:00 PM - 7:00 PM

Seven Minutes of Terror – Two Hours for Me!
By Kevin Gilchrist

Today is 18 February and about 4 hours after Perseverance landed on Mars. This was my first time as a Zoom co-host. We had about 30 members attending, some of whom just popped in for a few minutes, then left. I think our farthest away was Jack Eastman, in Denver.

The Zoom meeting started off OK, but after about a half hour, Zoom decided to bump me off the meeting. As I was sharing the feed, this caused me to scramble to re-log onto the meeting and get the YouTube NASA channel running again. It was downhill from there. After a bit a jockeying, John O'Bryan was able to keep a stable connection with Zoom and the NASA feed, which it too had started to have its own problems with connection and sync problems. I was bumped off the Zoom meeting a second time, but after returning again, things seemed to settle down for the remaining time.

Finally the real "Seven Minutes of Terror" began and seemed to go off exactly as expected, so much so that it was a bit of a letdown, but none of that other non-sound that can happen at these events – lots of silence and NASA people intently staring at their telemetry screens, followed with the person in charge giving us the bad news. Then, with everyone in the control room congratulating each other, the first image from the lander's hazard avoidance camera arrived, a low-resolution black and white image that confirmed the lander's survival – it's alive, it's alive!

So, while very exciting that Perseverance made it to the surface, it still has to make it through a circuit-chilling Martian night. Given its survival to the next day, and the days following, we can look forward to plenty of updates via NASA and all our favorite science YouTuber channels.

Cheers all!

Kevin Gilchrist

Credit: blogs.nasa.gov

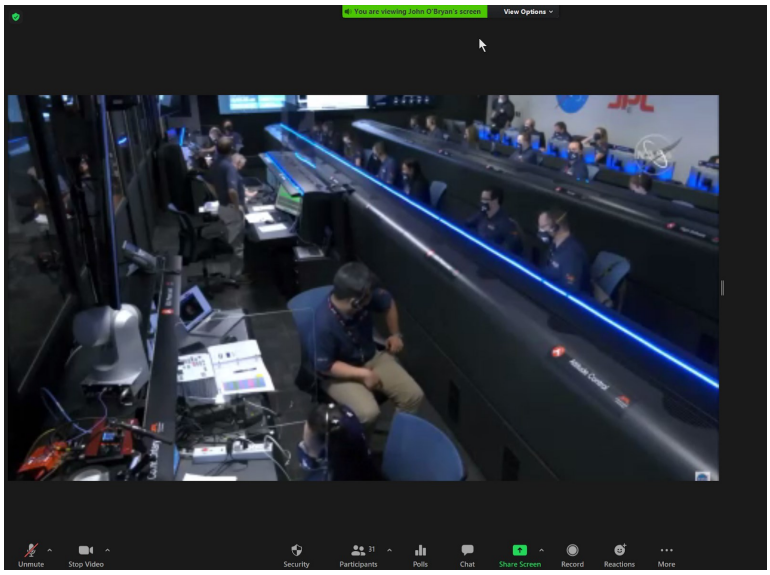
Mars Perseverance Rover Watch Party

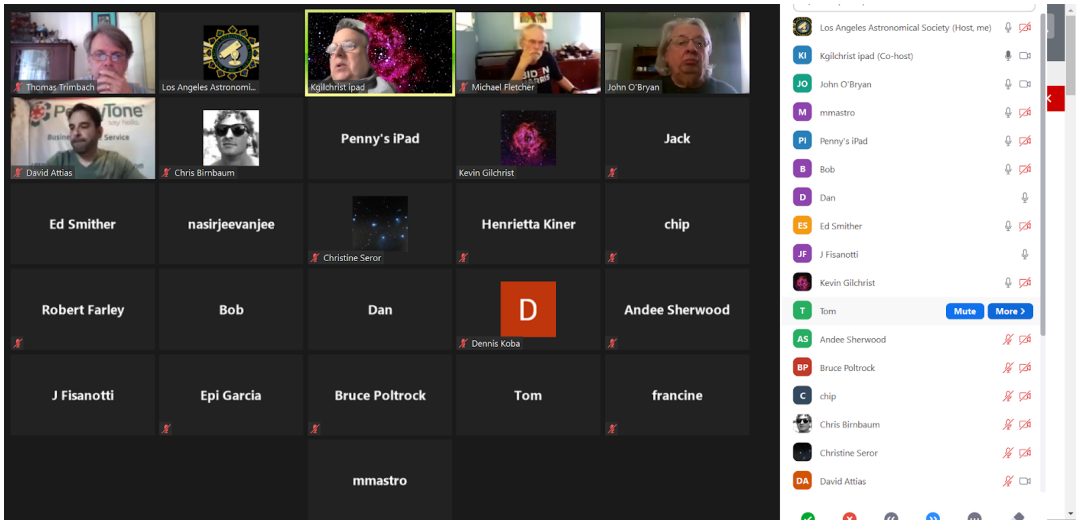
By Spencer SooHoo

One of the perks of living in Southern California is the ability to attend events sponsored by JPL. Starting with the Mars Pathfinder mission in 1996, I was fortunate enough to be at the Pasadena Convention Center with many other space enthusiasts to share the excitement for the lander and rover airbag touchdown on Mars. Hundreds of us in the auditorium cheered as the first images came back. The last event I attended was for the Mars InSight landing in 2018. The SWAG bag included a bottle of water labeled “Mars Water” (it’s still on my desk, unopened).

While it would have been great to attend an in-person event in Pasadena for the Perseverance Rover, I was able to share the event with 30 other LAAS members via Zoom. We started the Zoom session around 10:30AM with just a handful of members who used the time to socialize, and at the peak, there were 31 attendees. Despite some initial problems with audio lags, we held our collective breathes as the JPL commentator ticked off the passing of each milestone and finally let out a sigh of relief as we heard the announcement that the landing was successful.

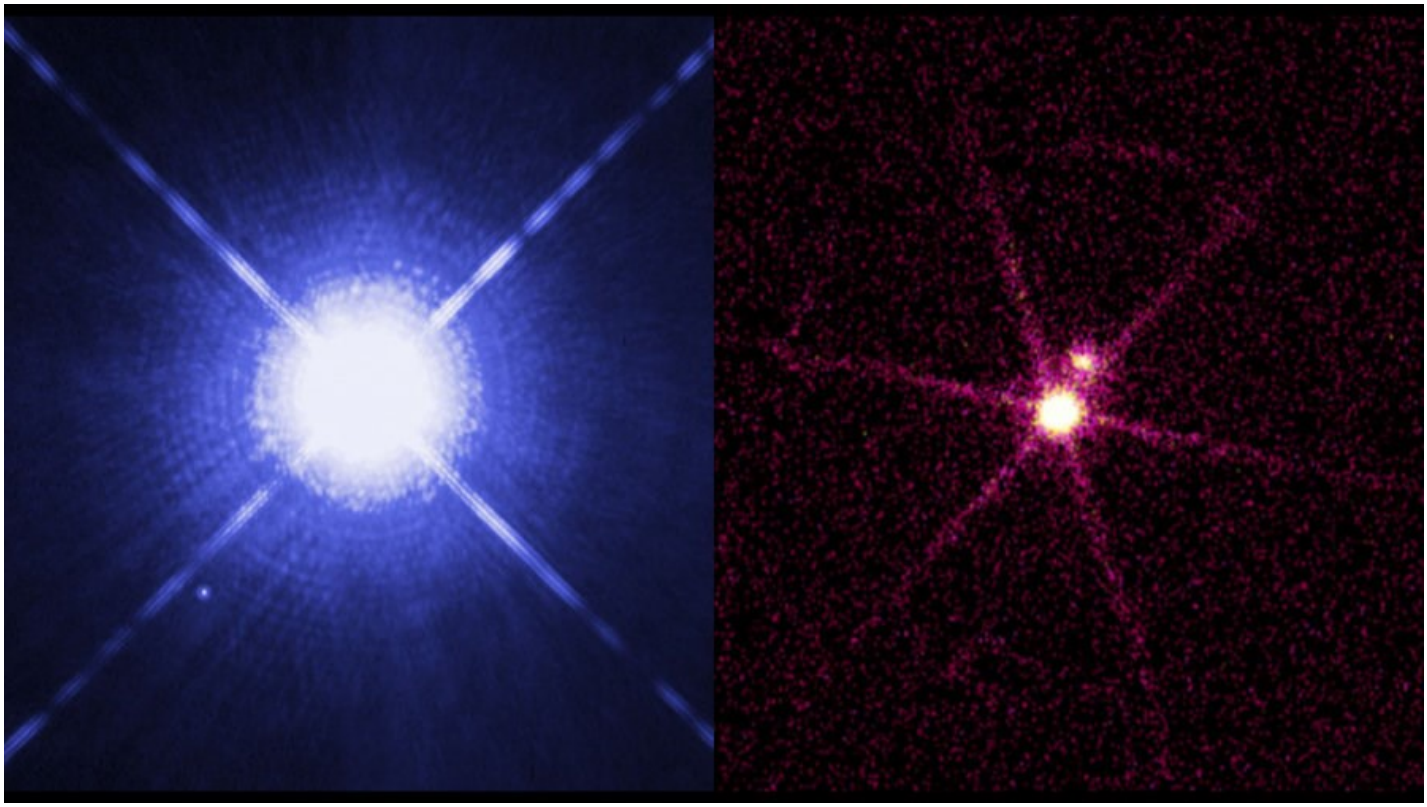
One of the silver linings of the COVID-19 pandemic is that it has motivated us to look at technologies like Zoom video conferencing. This is no replacement for in-person meetings, but it does eliminate the travel and traffic barriers for many of our members. One member who moved to Colorado was able to attend, as well as another one who has moved to Washington, DC. There is no doubt that once the COVID-19 restrictions are lifted, most LAAS in-person events will incorporate Zoom to allow more LAAS members to participate.





Taking the Dog Stars for a Springtime Walk: Sirius and Procyon

By Dave Prosper



Sirius A and B imaged by two different space telescopes, revealing dramatically different views! Hubble's image (left) shows Sirius A shining brightly in visible light, with diminutive Sirius B a tiny dot. However, in Chandra's image (right) tiny Sirius B is dramatically brighter in X-rays! The "Universe in a Different Light" activity highlights more surprising views of some familiar objects.

March skies feature many dazzling stars and constellations, glimmering high in the night, but two of the brightest stars are the focus of our attention this month: Sirius and Procyon, the dog stars!

Sirius is the brightest star in the nighttime sky, in large part because it is one of the closest stars to our solar system at 8.6 light years away. Compared to our Sun, Sirius possesses twice the mass and is much younger. Sirius is estimated to be several hundred *million* years old, just a fraction of the Sun's 4.6 *billion* years. Near Sirius - around the width of a hand with fingers splayed out, held away at arm's length - you'll find Procyon, the 8th brightest star in the night sky. Procyon is another one of our Sun's closest neighbors, though a little farther away than Sirius, 11.5 light years away. While less massive than Sirius, it is much older and unusually luminous for a star of its type, leading astronomers to suspect that it may "soon" – at some point millions of years from now – swell into a giant star as it nears the end of its stellar life.

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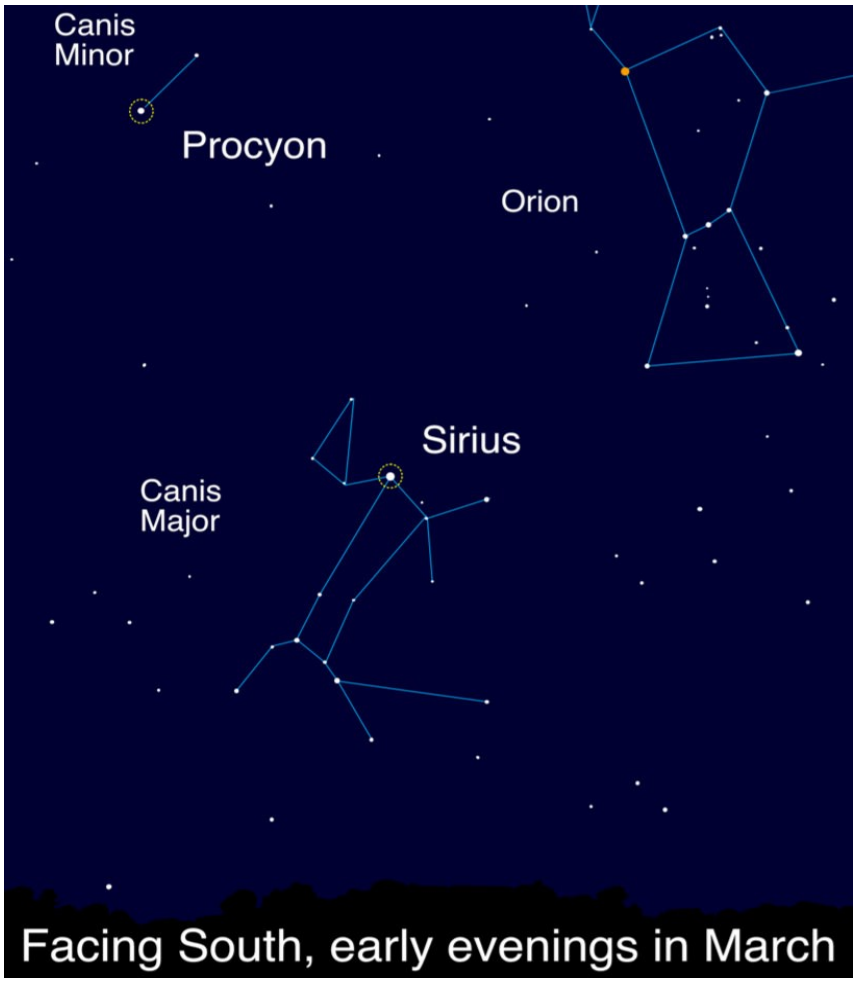


Sirius and Procyon, the loyal hunting dogs of nearby Orion the Hunter! What other stories can you imagine for these stars? Learn about "Legends in the Sky" and create your own!
Image created with assistance from Stellarium.

Sirius and Procyon are nicknamed the "Dog Stars," an apt name as they are the brightest stars in their respective constellations – Canis Major and Canis Minor – whose names translate to "Big Dog" and "Little Dog." Not everyone sees them as canine companions. As two of the brightest stars in the sky, they feature prominently in the sky stories of cultures around the world. Sirius also captures the imaginations of people today: when rising or setting near the horizon, its brilliance mixes with our atmosphere's turbulence, causing the star's light to shimmer with wildly flickering color. This vivid, eerie sight was an indication to ancient peoples of changes in the seasons, and even triggers UFO reports in the modern era!

Both of these bright stars have unseen companions: tiny, dense white dwarf stars, the remnants of supermassive companion stars. Interestingly, both of these dim companions were inferred from careful studies of their parent stars' movements in the 1800s, before they were ever directly observed! They are a challenging observation, even with a large telescope, since their parent stars are so very bright that their light overwhelms the much dimmer light of their tiny companions. The white dwarf stars, just like their parent stars, have differences: Sirius B is younger, brighter, and more energetic than Procyon B. Careful observations of these nearby systems over hundreds of years have helped advance the fields of: astrometry, the precise measurement of stars; stellar evolution; and astroseismology, the study of the internal structure of stars via their oscillations. Discover more about our stellar neighborhood at nasa.gov!

This article is distributed by the NASA Night Sky Network, a coalition of hundreds of astronomy clubs across the US dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, stargazing info and more.

The Jellyfish Nebula - IC443

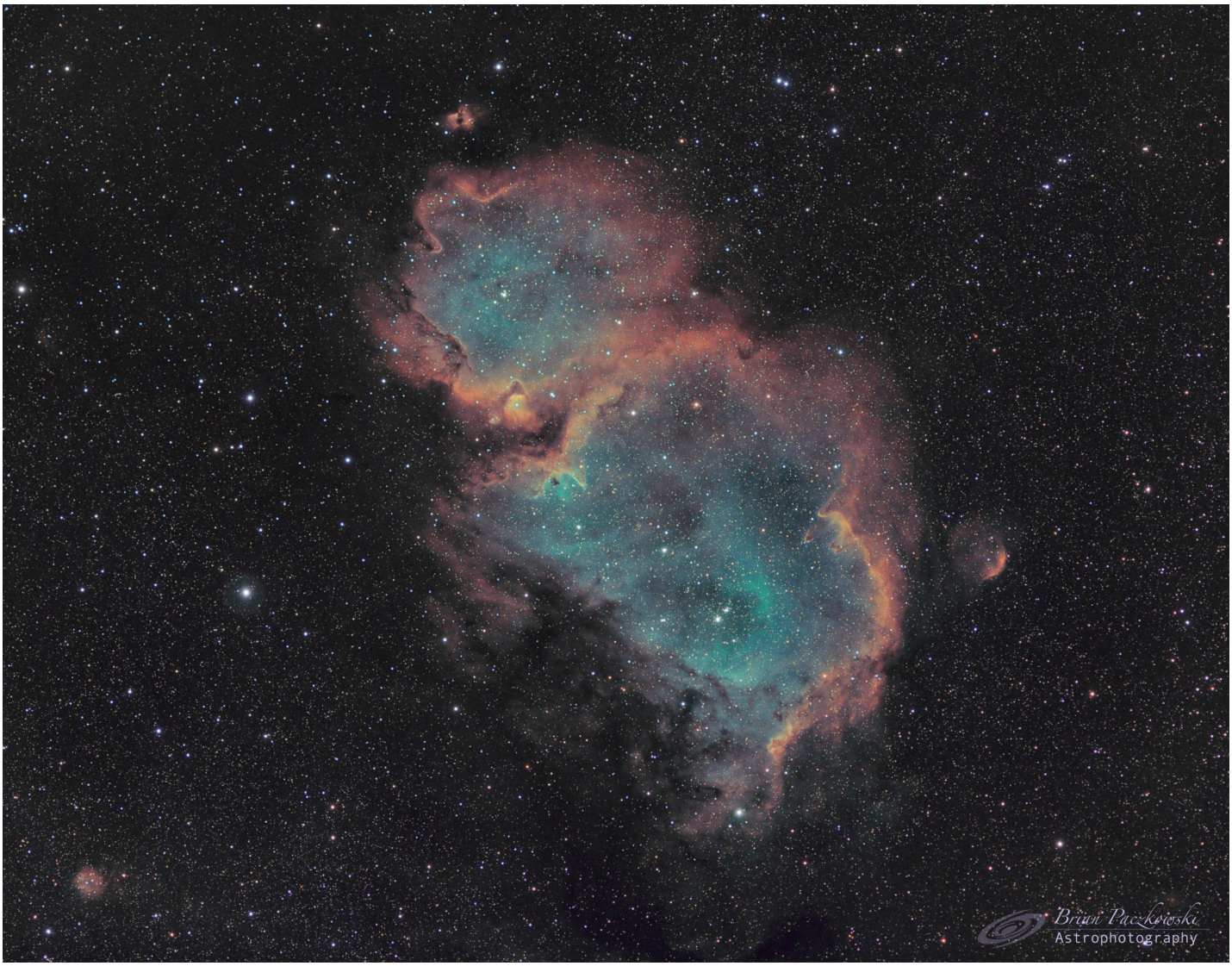
By Brian Paczkowski

The Jellyfish nebula (IC 443) in the constellation Gemini. This is the remnant of a galactic supernova that occurred 3,000 - 30,000 years ago. There's 2 narrowband versions, one using the Hubble palette, where SII=Red, Ha=Green, Blue=OIII and one where Red=Ha*80%+SII*20%, Green=OIII*80%+SII*20%, Blue=OIII. Taken over the past couple of months at my telescope's location in New Mexico. A total of 37 hours of narrowband data is used to create these composites. Processed in PixInsight and Photoshop. (Televue 76, 10Micron GM2000 HPS II mount, QSI 683 CCD camera with Astrodon LRGB Ha OIII SII filters at -20C)

Photo credit: Brian Paczkowski (https://www.instagram.com/iceman.from.titan/)

The Soul Nebula - (Sh2-199)

By Brian Paczkowski

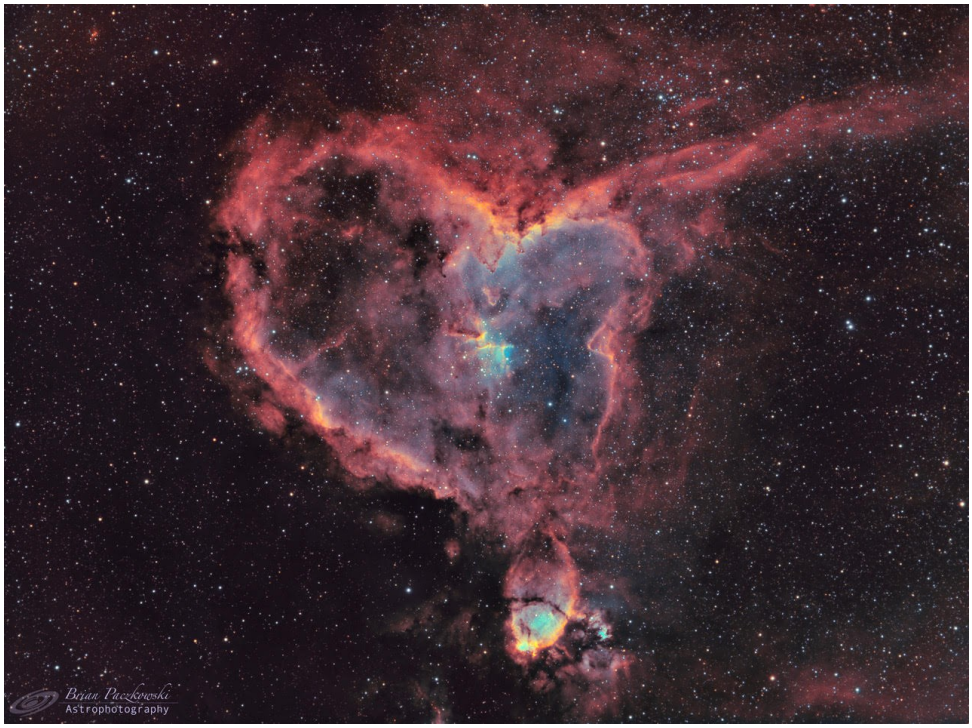


Soul Nebula (Sh2-199), the beautiful emission nebula in the constellation Cassiopeia. This is a narrowband image using the Hubble palette, where SII=Red, Ha=Green, Blue=OIII. Also includes RGB data for the star colors. The RGB data was collected at the Los Angeles Astronomical Society (@la.astronomical.society) dark sky site (Bortle 3-4) and the narrowband filter data was collected from my Bortle 7-8 light polluted backyard. A total of 22 hours of narrowband data is used and 3 hours of RGB data. Processed in PixInsight and Photoshop. (Radian Raptor, CGEM-DX ZWO ASI 1600mm-cool at -25C)

Photo credit: Brian Paczkowski

The Heart Nebula - Sh2-190

By Brian Paczkowski



Heart Nebula (Sh2-190), another beautiful emission nebula in the constellation Cassiopeia.

The Heart Nebula is located adjacent to the Soul Nebula (Sh2-199). There's 2 narrowband versions, one using the Hubble palette, where SII=Red, Ha=Green, Blue=OIII and one where Red=Ha*80%+SII*20%, Green=OIII*80%+SII*20%, Blue=OIII. The narrowband filter data was collected from my Bortle 7-8 light polluted backyard. A total of 48 hours of narrowband data is used. Processed in PixInsightProcessed in PixInsight and Photoshop. (Radian Raptor, CGEM-DX, ZWO ASI 1600mm-cool at -25C)

Photo Credit: Brian Paczkowski (https://www.instagram.com/

Monthly Star Report

By Dave Nakamoto

Pacific Daylight Saving Time, PDT, begins on Sunday March 14th at 2:00 a.m. All clocks must be advanced by one hour. Pacific Standard Time, PST, returns on Sunday Nov 7th.

Spring officially begins for the northern hemisphere, and Autumn begins in the southern hemisphere, on March 20th at 2:37 a.m.

I'll discuss the planets in the order they appear in the sky, starting in the early evening.

Mars continues moving west to east through the constellations of the Zodiac even as the whole sky moves slightly to the west each day. Mars starts each night almost overhead and slightly west of the meridian, the imaginary line going north to south and passing overhead. Mars slowly shrinks from 6.3 arcseconds to 5.3 arcseconds. This small size will make it nearly impossible for most amateur telescopes to see anything on the Martian disk.

All the remaining bright planets rise just before the Sun does in the morning sky.

Saturn rises in the east about an hour before the Sun rises. This will make it difficult to observe, but even a small scope should show the rings with enough magnification, and perhaps the largest and brightest of Saturn's moons, Titan, which will show up as a faint star close to Saturn.

Jupiter rises a half an hour later and begins March close to the sun and unobservable. Later in March, both Jupiter and Saturn rise about an hour later, and are higher in the sky and better placed for observing. A small telescope will show the two cloud belts of Jupiter, and its four brightest moons will show up as stars close to Jupiter and in a rough line.

Mercury rises just before the Sun does making it hard to observe. Even through a telescope, Mercury shows such a small disk that this is all you can observe. Although Mercury passes within half a degree north of Jupiter on the morning of the 4 th and the 5 th , this will be almost impossible to observe, as Jupiter rises above the flat horizon at 5:05 a.m., PST, while the Sun rises at 6:15 a.m., PST.

Venus is close the sun through March and unobservable.

The Moon's phases in March are:

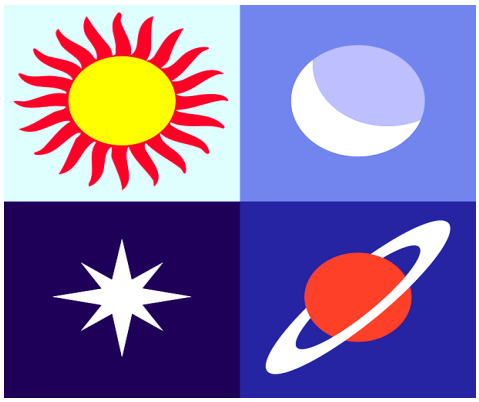
Last Quarter – 5 th

New Moon – 13 th

First Quarter – 21 st

Full Moon – 28 th

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

March 6 - Mercury at Greatest Western Elongation. The planet Mercury reaches greatest western elongation of 27.3 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.

March 13 - 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 10:23 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.

March 20 - March Equinox. The March equinox occurs at 09:27 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 spring (vernal equinox) in the Northern Hemisphere and the first day of fall (autumnal equinox) in the Southern Hemisphere.

March 28 - Full Moon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be will be fully illuminated. This phase occurs at 18:49 UTC. This full moon was known by early Native American tribes as the Worm Moon because this was the time of year when the ground would begin to soften and the earthworms would reappear. This moon has also been known as the Crow Moon, the Crust Moon, the Sap Moon, and the Lenten Moon.

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

Additional Links:

Moon Phases Chart for 2021

https://www.mooninfo.org/moon-phases/2021.html

Visibility of the Planets

https://www.nakedeyeplanets.com/visibility.htm#2021

Sky Report—Griffith Observatory

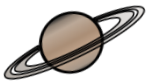
http://www.griffithobservatory.org/sky/skyreport.html

NASA News:

https://www.nasa.gov/topics/solarsystem/index.html

JPL News:

https://www.jpl.nasa.gov/news/



Outreach Event Advisory

Until further notice, all outreach and public event programs are cancelled due to the current pandemic.

The Garvey Ranch Observatory is closed to the Public.

March 2021

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

Meet The New Members

Angela Villegas and James Otoski

Robert van der Hoek

Jeffrey Gortatowski

Leonard Cutler

Douglas Garrett

Krikor Nalbantian

Claude Kaloustian

Esther Trevino

Miles Chen and Family

LAAS Board Meetings

.Due to the pandemic, all Board Meetings are now held online, live on Zoom. Please check the information posted in the IO Group Forum for any current news related to these meetings. If you wish to attend a board meeting, please send a request to secretary@laas.org for a link to Zoom.

Volunteer Opportunities

Every LAAS member is a volunteer at some point. Some members volunteer to share telescopes with the public, while others tackle administrative duties, help out at our community and public events, or join a club committee. Taking photos at our events and writing articles about events for our club newsletter are great ways to volunteer and become more involved in the LAAS as a member.

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

Volunteers are still needed to write articles for our monthly newsletter or share images captured of the night sky. Members are also welcome to come up with new ideas and future activities for the membership which can be shared in Board meetings. If you are artistic and enjoy creating posters or flyers, or printable astro-educational handouts for further star parties, please let us know.

Time To Renew Your Membership?

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

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

LAAS Outreach Program

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

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

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

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

LAAS Club Swag

LAAS T-Shirts, Hoodies, mugs, and more!

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

Please note all prices listed are subject to change and include all shipping and handling costs. All items will be shipped directly to the address you provide on your order form.

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

Amazon Smiles

The LAAS is now listed on Amazon Smiles. When you purchase any goods on Amazon.com, Amazon will donate a small percentage of the funds they receive from you, back to the LAAS. Here's some information to help bring in funds for our club projects:

What is AmazonSmile?

AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you, with the added bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization., such as the LAAS!

Learn more by following this link:

http://smile.amazon.com/

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 retuned 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 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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Outreach Coordinator: Heven Renteria

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Club Communications: Andee Sherwood

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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

Follow us on social media by clicking on one of the images below

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YouTube

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