

VILLAGES STAR

Newsletter of The Villages Astronomy Club

Volume 2, Number 2
February 2021

Club Website:

<http://vlgastroclub.org/>

Facebook:

<https://www.facebook.com/groups/vlgastroclub/>

Club Officers & Assistants

President Gerry Kosarko

Vice President Mark Graybill

Secretary/Historian Burt Salk

Treasurer Linda Meng

(officer contact info on club website)

Newsletter Contact

saundby@gmail.com

(please include TVAstro in subject line)

FROM THE EYEPIECE

Our Vice President, Warren Litavsky, has had to resign his position for personal reasons. Warren has served us well through a difficult time, and the Board extends their deepest thanks for his work.

Warren will remain a member of the club, and in time may have other opportunities to serve the club and take part in its activities, once they can be resumed.

The position has been filled by Mark Graybill, who will attempt to serve to the high standard established by Warren.

FEBRUARY NEWS

Warren Litavsky has resigned his position as Vice President of the club. The Board placed Mark Graybill in the position of Vice President.

February's meeting presentation will be "Mars, Here We Come..." by Burt Salk. Please join us via Zoom on Tuesday Feb 16th. The Zoom meeting will open at 6:30pm, the club meeting will begin at 7pm. The Zoom link for this meeting is:

<https://us02web.zoom.us/j/87149101944>

Our March meeting presentation will be on ITelescope, by Darrell duBose. ITelescope is a service that provides internet access to remote observatories for astrophotography. Join us on March 16th to learn more about this amazing service and its capabilities for amateurs!

Our next executive board meeting will be on March 4th at 8:30am at the Laurel Manor recreation center (usually the Jefferson room). We invite club members to attend!

Our first Telescope Workshop was held on Feb 2nd via Zoom. It was a resounding success. Over 20 members attended, and our presenters John Carter and Charlie Hanf did a great job with their scopes. See the event report inside.

Telescope pads for astronomers have been announced at a new recreation center. We are waiting to see how they turn out.

Membership in the Astronomy Club

Residents of The Villages may be members of the club. Until physical meetings can resume, there are no dues required. To become a member, please join our email list so that you can receive club notices, the club newsletter, and invitations to the club's Zoom meetings.

To join the email list, send an email request to join the The Villages Astronomy Club mailing list to Burt Salk at: bls73@aol.com

Facebook Group

The club has a Facebook group which is an unofficial place for discussion by club members and nonmembers alike. You need not be a member of the club to be a member of the Facebook group, and we invite anyone in the area of The Villages to join us there, including our surrounding communities and other developments such as Plantations at Leesburg. We share news articles, astronomy tips, and the newsletter and invitations to the Zoom meetings are available there as well, since we don't need to comply with restrictions on attendance placed on our physical meetings.

To join our Facebook group, you will need a Facebook account. When you apply to join the group, you will be asked a couple of simple questions used to keep out spammers and other people who don't belong. A member of the admin team will admit you to the group as soon as they are able.

Our group can be found at:

<https://www.facebook.com/groups/vlgastroclub>

Observation Reports

Please send your observation reports for publication in the newsletter! They do not need to be anything formal, simply your personal impressions, whether with a telescope, binoculars, or just your eyes.

IN THE SKY THIS MONTH

Jupiter/Venus Conjunction

On the 11th, Jupiter and Venus will be within 0.4 degrees of each other at 7am.

The Moon

New Moon: 11 February, 2:06pm

First Quarter: 19 February, 1:47pm

Full Moon: 27 February, 3:17am

Use the Moon to identify constellations and nearby bright stars:

10th: Near Saturn and Venus in Capella

19th: In Taurus, between the star clusters of The Pleiades (Seven Sisters) and the Hyades (a V shape, the face of The Bull.)

23rd: In Gemini, 4 degrees from Pollux

24th: In Cancer, near the Beehive Cluster (M44)

View with binoculars or low power telescope.

26th: In Leo, 7 degrees from Regulus

29th: In Leo, near Regulus

Sky Highlights

The Great Orion Nebula (M42) is a fuzzy "star" below the three stars that make up Orion's belt. Through binoculars, it is seen as a small cloudy patch, and a telescope will show it as a nebula with bright stars at its center. Higher magnification in a telescope will resolve a small group of four bright stars in its heart--the "Trapezium."

The Hyades are a nearby (150 light years) cluster of stars that make a V shape in the sky, forming the face of The Bull, Taurus. The Moon passes near them on the 19th. The bright star Aldebaran, "The Eye of The Bull", is not a member of the cluster, but it marks the top of one side of the V. The five brightest stars are giant stars that have consumed all their hydrogen gas. View them by eye, through binoculars, or low power telescope.



Archaeoastronomy

by LtCol. Kenneth S. Katta, O.D., USAF(Retired)

Interest in ancient cultures and their perception of the solar system and the universe has resulted in a new branch of astronomy- archaeoastronomy- which attempts to understand how ancient cultures observed the sky, what beliefs they developed interpreting the universe and how these ancient astronomers advanced the science of astronomy.

Ancient astronomers viewed the skies differently than we do. They had different tools and different goals than does modern astronomy. Their remarkable discoveries and achievements were built on many thousands of years observing the sky. One example is an ancient civilization that existed on Sardinia, in the Mediterranean Sea, called the Nuraghes who existed from 1800 B.C. To 200 B.C. They are believed by archaeologists to have built a well now named the Well of Santa Cristina which is believed to track the lunar standstill. This phenomenon occurs every 18.6 years! However there is no theory as to why this well tracks the lunar standstill or its significance this for this culture.

Probably the oldest observatory was found in 2001 in a Bronze Age settlement in the North Macedonian village of Kokino. This 3800 year old site contains markers used to study the movement of the sun and moon and create a lunar calendar. This megalithic observatory is located at an elevation of 3300 feet! This scientific and ritual site is of great interest to archaeoastronomy researchers who study the sky-based rituals of ancient societies through the lens of anthropology and modern astronomy.

It is even more interesting to study ancient Egyptian astronomy. It has been determined by archaeoastronomers that while most pyramids were aligned to Thuban, which was the North Star, instead of Polaris in ancient times, the three pyramids on the Giza Plateau, including The

Great Pyramid, seem to be aligned to the belt stars of Orion. However, this is controversial. The Great Pyramid's square base has its edges accurately aligned north-south and east-west. Thus the alignment is in the cardinal directions. Amazingly, this alignment is accurate to $1/20^\circ$, a deviation of 8 inches over the entire 230 meter baseline on the side! This astounding accuracy can only be made with astronomy. The central mystery of the Great Pyramid is how the ancient Egyptian builders could have aligned the edges north-south and east-west.

Even the most sophisticated modern technology, a lot of effort and special work is required to match the Great Pyramid's accuracy. There is no agreement as to the alignment method. But there is a depiction in ancient texts of an alignment ceremony, called the stretching of the cord, which indicates the Egyptians had astronomical observations central to their beliefs and these beliefs concern the pharaoh himself.

There are other mysteries in ancient astronomy that are not explainable. Ancient Babylonia, Greece, Rome, Asian, India, Islam, and even Native American cultures provide many avenues for investigation in archaeoastronomy. I have only provided three examples of such investigations. There are courses of study in archaeoastronomy being developed in several universities to answer these questions- where have we been and where are we going, and the ultimate question- Are We Alone?



Kokino Observatory in Macedonia by Acer GER

VIDEO HIGHLIGHTS

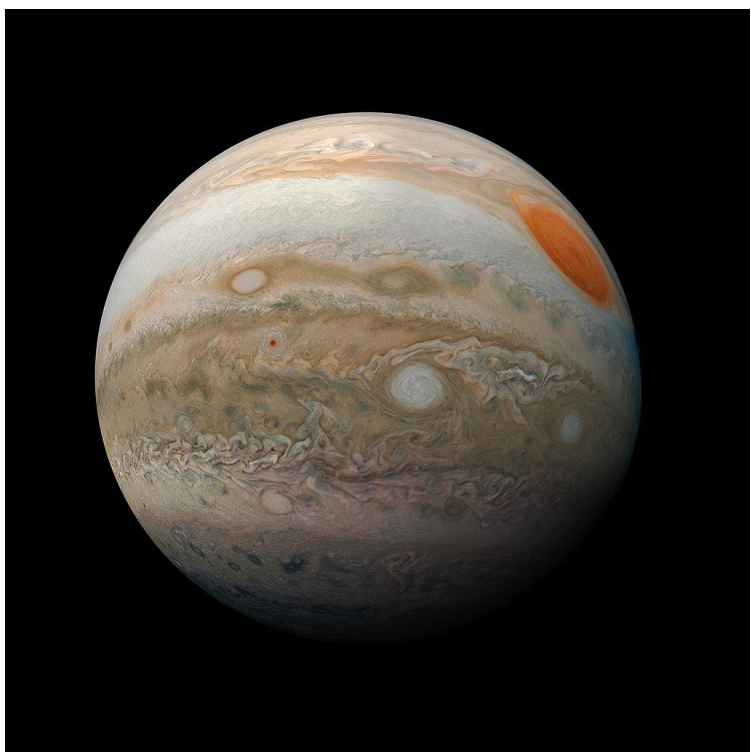
SpaceX Starship SN9 Flight Test

<https://www.youtube.com/watch?v=zZ7flkpBgs>



Smarter Every Day: How to Land on the Moon

<https://www.youtube.com/watch?v=OXk4RKZhaY>



ONLINE RESOURCES:

Perseverance Arrives At Mars

<https://mars.nasa.gov/mars2020/>

The new rover lands on Mars on February 18th! Watch the NASA site for information and updates as it begins its mission.

What's In The Sky Tonight?

<https://www.timeanddate.com/astronomy/night/>

What's up, where it is, for your location and time zone.

SpaceX Starship Information Site

<https://www.spacex.com/vehicles/starship/>

Drawings, images, video, and presentations on the new Saturn V class launch vehicle being developed by SpaceX for trips to the Moon, Mars, and beyond.

JUPITER MARBLE

<https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA22946>

This view of Jupiter's Great Red Spot and turbulent southern hemisphere was captured by NASA's Juno spacecraft as it performed a close pass of the gas giant planet.

Juno took the three images used to produce this color-enhanced view on Feb. 12, 2019 as the spacecraft performed its 17th science pass of Jupiter. The spacecraft was between 16,700 miles and 59,300 miles above Jupiter's cloud tops.