VILLAGES STAR
Newsletter of The Villages Astronomy Club

Volume 3, Number 8
August 2022

Club Website:
http://vlgastroclub.org/
Facebook:
https://www.facebook.com/groups/vlgastroclub/

Club Officers & Directors

President	Mark Graybill
Vice President	Ken Katta
Secretary/Historian	Burt Salk
Treasurer	Linda Meng
Education Coord.	Randy Gilbert

Newsletter Contact
saundby@gmail.com
(please include TVAstro in subject line)

UPCOMING EVENTS

August 2nd: Telescope Workshop
7pm Truman Recreation Center Pavilion Area. Learn how to choose and use a telescope, or share your knowledge with others. Note that this is an informal event, if others are using the pavilion we will still be there, but will set up outside the pavilion area. Cancelled in the event of inclement weather.

August 5th: Director's Meeting
11am Fishhawk Recretion Center, Buttonwood Run. Come help us plan future events for the club!

August General Meeting Cancelled.
There will be no general meeting in the month of August.Enjoy the summer sky!

September 2nd: Directors' Meeting
11am Fishhawk Recreation Center

September 6th: Telescope Workshop
7pm at Truman Recreation Center Pavilion Area

September 20th: General Meeting
Dr Charles C Vuille of Embry Riddle Aeronautical University's Physical Sciences Department will be speaking to our club. He is currently researching quantum gravity and General Relativity, and has an ongoing interest in the teaching of physics. Please plan to come to what promises to be a great presentation.

November 11: Starry Starry Day and Night
(fallback date Nov 12 for weather.)
Our twce yearly public event where we provide Solar Walk tours during the day and astronomical observation at night will come on November 11th this year. We need volunteers to assist us, whether you have a telescope or not, and no matter your level of technical ability.

Docents for the Solar Walk will guide guests through our scale model of the Solar System, a set of signs that we set up at the relative distances of the planets from the Sun. We share some facts at each stop along the way. We have a script you can use, and you can personalize the tour with your own knowledge and interests.

We will also have astronomers with solar scopes during the day.

Our observational astronomers will be setting up telescopes at night, but during that time we can

use people to help guide our guests to the Astronomy Park from the parking area, as well as do “crowd control” near the telescopes, helping guests find items of interest being shown, or to someone who can answer their questions about space and astronomy.

Calendar: https://vlgastroclub.org/calendar/

NEWS

July Meeting

We had about one dozen members attend our off-cycle July meeting this year. This was our first in-person meeting during the summer.

Homestead Astronomy Park Issues

We discussed the issues around our use of the Homestead Astronomy Park. The primary issue being that of access during the hours that we would be doing astronomy. Because it closes when there are no staff on site, even if we can get staff to cover the site until 10pm, that leaves less than one hour of dark sky time, as that 10pm closing time is the time by which all equipment must be packed up and removed so that staff can lock the gate.

To spell out the problem, it’s like this:

Sunset is near 8:30pm. That means that full dark is after 9pm (end of civil twilight at 9pm, but full dark is usually 20-30 minutes later.) Typical teardown and transport time for a modest setup is going to be about half an hour.

That means:

8:30pm sunset
9pm civil twilight
9:20pm full dark observing begins
9:30pm teardown time starts
10pm park clear, gate closed and locked.

That allows us an awful lot of effort (don’t forget the half hour of setup time) for roughly 10 minutes of observing time. Too little time to view more than a few objects, too little time for any astrophotography.

The effect is that the Astronomy Park is useless to us for 8 months out of the year, and still only barely useful for the remaining 4 months when sunset times and the clock shift are in our favor.

At present we are still planning to hold our Starry Starry Nights programs at the Astronomy Park in November and March each year (on the favorable side of the daylight/standard time shift), but even that is under discussion as our ability to use the new Astronomy Park is literally worse than our access to the tennis courts at Lake Miona Recreation Center (and the site is less central to The Villages.)

Southward Shift

As The Villages grows toward the south, we discussed whether the meeting site should move south, and the idea of having additional club activities at southern locations.

One piece of this puzzle is that The Villages has the ability to assign us a new location. The Recreation Department looks at the clubs to determine where their members are centered, and may relocate a club’s meetings based on its membership. If you live in the south, make sure you get to the general meeting and get your resident ID scanned to have that represented to The Villages.

We also have the opportunity to request a change of location, and we have opened that discussion with Recreation. At present, we have our room in Laurel Manor Recreation Center reserved through 2023. However, discussion on moving our meetings to a different center (such as Rohan or Everglades) will come this fall.

Meanwhile, we are looking at adding an additional event during the month in a more southerly location. Among the possibilities are a monthly observing session or telescope workshop type event at a southern recreation center, or an event in a public space that is closer to the south.

Sites and Channels of Interest

Another topic of discussion was favorite locations to find astronomy and space related information. Websites, YouTube channels, and so on. We got a substantial list, which I have placed below with active links. I will also be adding a Links page to the website to capture these recommendations more permanently.

Camp Villages and Wildwood Summer Camp

Thanks to our Educational Programs Director Randy Gilbert, we have been able to participate in summer educational sessions with Camp Villages and with the City of Wildwood.

To date, we have held 2 of the 3 sessions, with a 3rd to be held on August 3rd. It has been a great opportunity for us to share our knowledge but most of all our enthusiasm about science and the sky with youngsters.

At the Wildwood event, one young attendee named Ben built his own solar viewer and said, “I wasn’t going to build one because I’ve never built anything myself before. But then I built it, and now I want to try to build other things.”

Giving a child their first opportunity to build something with their own hands and gain the confidence that comes with doing that is an example of why we do this. We never know what will grow from the seeds we plant!

Childen of the Wildwood Summer Program View the Sun Through Their Solar Pinhole Viewers

IN THE SKY THIS MONTH

The Moon:

1st Quarter, August 5th,
Full Moon, August 12th,
Last Quarter, August 19th,
New Moon, August 27th.
1st Quarter, September 3rd

The Planets:.

Mercury is in the early evening sky this month, visible near sunset low in the west. On the third it is near Regulus in Leo, at magniture -0.5. It dims to magnitude 0 by midmonth, but is up later after sunset, placing it in darker skies. By month end it is at greatest elongation (farthest from the sun as seen from Earth), but has faded a bit more to magnitude 0.3.

On the 28th and 29th it shares the western sky with the crescent Moon at sunset.

Mercury shows little detail in a telescope, and can be observed well in binoculars with little effort. Even high powers in a telescope do not reveal any significant detail. Mercury begins to reveal a disk at low powers, even 20x will show it as a non-stellar object.

Saturn rises in the east a bit before 9pm at the start of the month. On the 14th Saturn is at opposition (directly opposite the Sun in Earth’s sky) and is up all night, as well as being at its brightest. On the nights of August 11th and 12th, Saturn appears in the same area of the sky as the Full Moon.

The rings are still tipped at a good angle for observation, but they are on their way to facing us edge on in 2025. Midmonth is the best time to look for details in Saturn’s rings.

Small telescopes can catch some of Saturn’s many moons. Titan is an easy catch, appearing like a medium-brightness star near Saturn and in line with its equator, it can be seen in binoculars and in small telescopes.Moons Iapetus, Tethys, Dione, and Rhea are visible in small telescopes closer to Saturn, and can be identified by using an online tool at Sky and

Telescope's website to see which moon is in what location relative to Saturn for your observing time.

Jupiter starts the month rising at about 11pm, about 10pm at midmonth, then by 9pm befoire month's end. Jupiter shines brightly at magnitude -2.7, the brightest "star" in the sky. Its moons can be seen in binoculars, even small 7x35 binoculars. They are so bright that we would be able to see them by eye if it weren't for Jupiter's bright light washing them out of view.

The 4 Galilean moons are easiest to see, a larger scope can pick out additional moons. Again, Sky and Telescope magazine's website features a graphical tool to identify each moon based on its position for the time you are viewing.

Neptune is a binocular object, just outside visibility at magnitude 7.7. The Sky and Telescope website has a finder chart to locate Neptune among the stars of constellation Cetus this month

The Perseids

The Perseid Meteor Shower peaks on the morning of August 12th at about 2am, the shower puts on a good show a week before and after this date. Since the Full Moon falls on the 11th, the light of the Moon will wash out the faint Perseid meteors.

Meteor showers are best watched by eye, in a dark site far from city lights. A chaise lounge makes a good observing instrument, facing generally north. The Perseids appear to emanate from the constellation Perseus, so they appear all around Perseus but generally not in it. This is usually one of the brightest and most active showers of the year..

Children of Wildwood View the Sun Through Club Members' Solar Scopes

Favorite Resources

The following are favorites collected from club members at the July meeting.

Zooniverse

Zooniverse started as "Galaxy Zoo", a crowdsourced project to classify galaxies. It was so successful that it became Zoonniverse, a site for crowdsourcing science from many disciplines, including translation, the arts, microbiology, and so on. With just a few minutes training, you can contribute to science projects in your spare time on your cellphone! Select "Space" as your discipline of interest to see the astronomy projects currently underway:

https://www.zooniverse.org/projects

Space.com

News and information site on spaceflight, astronomy, and all things space. Includes the ability to receive launch notifications and other news as it happens:

https://www.space.com/

NASA

NASA's official website includes sub-sites on current projects, archives of images, video, and other media:

https://www.nasa.gov/

Science News

Science News magazine is a small digest magazine that includes brief articles about a wide range of science projects and advancements from physics to biology:

https://www.sciencenews.org/

NextSpaceFlight

NextSpaceFlight is a website and associated apps for Apple and Android that give alerts on upcoming launches. Filter by launcher, site, or type of launch:

https://nextspaceflight.com/

Heavens-Above

Find out when bright satellites will pass over like ISS, Hubble, the Genesis space stations, China's space station, as well as Starlink trains, etc. Gives rise and set times, peak height in the sky, and time of transit: https://heavens-above.com/main.aspx?lat=28.8759&lng=-81.9846&loc=The+Villages&alt=0&tz=EST

Live Satellite Tracker

N2YO.com tracks the current location of the satellites in the NORAD database with a graphical map:

https://www.n2yo.com/

Astronomy Weather Report

Astrospheric gives local weather predictions for observation for each hour of the night so that you know if the clouds are going to clear any time tonight: https://www.astrospheric.com/?Latitude=28.754400253296&Longitude=-81.862663269043

Science Without the Gobbledygook

Sabine Hossenfelder gives clear explanations of science subjects without the confusing parts on her YouTube channel: https://www.youtube.com/channel/UC1yNl2E66ZzKApQdRuTQ4tw

What Da Math?

Anton Petrov discusses space and astronomy using simple descriptions and videogame-level examples: https://www.youtube.com/c/whatdamath

Dr Becky

Dr Becky, Your Friendly Neighborhood Astrophysicist covers breaking and current topics in astronomy and astrophysics, black holes, talks about work as an astrophysicist, and explains how some of these crazy things get figured out: https://www.youtube.com/c/DrBecky

Scott Manley

Scott is a physicist, DJ, and space enthusiast who covers current spaceflight projects and events, answers viewer questions, and gives graphical representations of orbital mechanics to make it more understandable: https://www.youtube.com/c/szyzyg

Deep Space Network NOW

DSN Now shows the current status of the Deep Space Network antennas and what communications are happening on a real time basis. Want to watch New Horizons send data back to Earth in real time? You can do it here: https://eyes.nasa.gov/dsn/dsn.html

Mark Rober

Former NASA Roboticist Mark Rober teaches science, technology, and problem solving through fun and often amazing projects such as the world's largest "Elephant Toothpaste" fountain https://www.youtube.com/c/MarkRober

Ed Ting

Telescope advice for beginners, solving common problems, choosing telescopes, comparisons of different telescope types, etc: https://www.youtube.com/user/edting

HazeGrayArt

Visualizations of space launchers both real and never built. See what a rocket would look like as it launches if it were transparent, see what a Starship landing on Mars will look like, see a reproduction of a mighty Nova launch vehicle carrying Apollo to the Moon without using Lunar Orbit Rendezvous, and launches of the largest spacecraft ever seriously conceived of: https://www.youtube.com/c/Hazegrayart

Smarter Every Day

Engineer Destin demonstrates and plays with science hands-on: https://www.youtube.com/c/smartereveryday