



July 2020

Editor – Guy Earle

The St. Petersburg Astronomy Club has been the center of family astronomy in the Tampa Bay Area since 1927. Our 275 adult members are dedicated to promoting and sharing the wonders and science of astronomy. We host dark-sky and local star parties, telescope-making workshops, science lectures, astronomy lectures, educational outreach sessions and much more.

President's Message

BRAD PERRYMAN



Summer is here. The daylight hours are waning, providing earlier and longer nighttime viewing. Unfortunately, we will still have to deal with the hot and humid Florida nights for a while, but as long as we are doing what we love that's all that matters.

It's a strange time we're living in right now. Public events will unfortunately have to wait until next year. I, for one, will miss going to schools and parks to share the night sky with students, teachers and parents. In the meantime, our astrophotographers have really outdone themselves, posting some amazing pictures on Facebook.

Along with public events, our general meeting location is closed, as well. Consequently, we have moved our meetings on-line. You can find out how to join us in the "July General Meeting" section of the newsletter. This month, Carmen Manfredi has an insightful presentation on "Lenses, Light and the Telescope."

On the bright side, the park has reopened. So, we can enjoy the darker sky's during the new moon weekends at Withlacoochee River Park each month.

I really hope everyone has a great summer. Stay safe and Clear Skies.

New SPAC Members

We would like to welcome Vibhakar & Jyotika Shroff, and Juliette Lynn to our family of members.

July General Meeting

This month’s general meeting will take place on Friday, July 24th at **8:00 PM**. The main program will be by Carmen Mandredi on **“Lens, Light, and Telescope.”** This will meeting will be held virtually with GoToMeeting.com.

Please join from your computer, tablet or smartphone by clicking [here](#).

You can also dial in using your phone.
United States: +1 (786) 535-3211

Access Code: 192-720-429

The club’s **New Moon observing weekend** will be held July 17th-19th at [Withlacoochee River Park](#).

August Astronomical Events

STEVE ROBBINS



Saturday, August 1, the Moon will be at greatest southern declination -24.1°.

Sunday, August 9 Mars will be .9° north of the Moon. The Moon will be at apogee, 404,700 km from Earth.

Wednesday, August 12 is the peak of the Perseid Meteor Shower with a last

quarter Moon rising at about 3 am. With a ZHR of about 90 this is worth watching! Also on the same night, Venus is at greatest elongation, 45.8° west of the Sun.

Saturday, August 15, the Moon will be at greatest northern declination +24.2°.

Monday, August 17, Mercury will be at superior conjunction on the far side of the Sun.

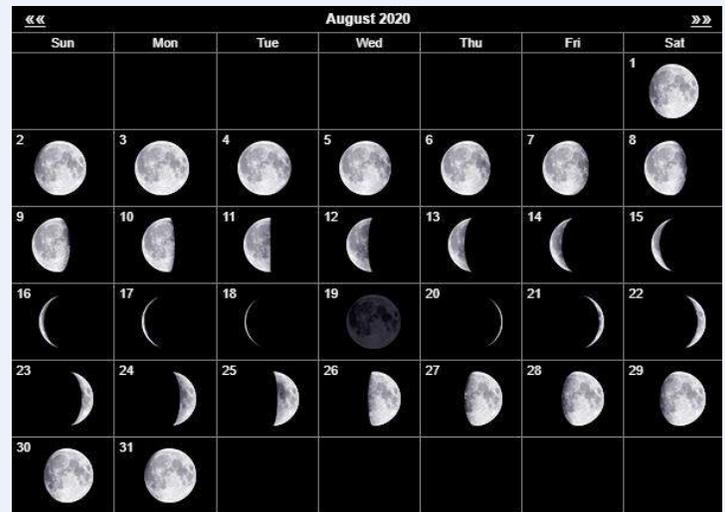
Friday, August 21 the Moon will be at perigee, 363,500 km from Earth.

Friday, August 28, the moon will be at greatest southern declination -24.2°.

August’s full moon is called the Sturgeon Moon. Almost all of our full moon names come from Native American Indian tribes.

The Moon

- Full Moon – August 3
- Third Quarter – August 11
- New Moon – August 18
- First Quarter – August 25



Space Exploration News

STEVE ROBBINS



First it was Boeing, now it's Lockheed Martin saying SpaceX can't get the job done. "we don't aspire to dumping a box of parts on a table and trying to make it work. Let's take the Dragon. You could add more backup computers, strings of communications, the ability to fly for days after loss of air pressure, and the ability to navigate in deep space without GPS and return to the Earth without the help of Mission Control. But it would no longer be a Dragon. It would be some new, untested vehicle that is bigger, heavier, less understood, and less capable than Orion, which the best engineers and scientists from around the world have designed for the sole purpose of opening the Moon and Mars to humanity." Oh, brother! Orion has only flown once in mock-up boiler plate fashion in 2014 and never since. All these dinosaur aerospace contractors need to stop focusing on SpaceX and start getting the job done.

GAIA, ESA's giant killing space observatory isn't satisfied with collecting more than 1.7 individual stars' magnitudes, spectra, variability and real space motions to an accuracy 100 times more accurate than ever before. It turns out GAIA photographs everything it sees out there, including asteroids. The combination of GAIA's ability to see very faint asteroids and its hyper accurate star positions has resulted in great strides in asteroid astronomy.

NASA is building a new probe, Psyche to explore a special asteroid, 16 Psyche. 16

Psyche exists to illustrate Isaac Asimov's "The universe is not only stranger than we imagine, it is stranger than we can imagine." This asteroid appears to be the solid metal core of an ancient protoplanet. It's as if the core of Earth were stripped of the crust and mantle surrounding it, then cooled. This metal, probably a mixture of iron, gold, copper, everything valuable to Earth, might be worth \$10,000 quadrillion dollars, more than the worth of the entire global economy.

New SPAC Membership Cards

A SPAC membership card can be created and printed on the SPAC Website. You need to [visit the site](#), create a password and sign in as a member. Your personal membership card is available at that location. The card is needed to be eligible for reduced camping fees at Withlacoochee River Park.

June 19–21 New Moon Weekend

KELLY ANDERSON



The weekend event began a day early with Joe Canzoneri arriving on Thursday to put his new camera and scope to work. Check out his results on the SPAC Facebook Wall and I'm sure you'll agree his images are much improved.

Several of our stalwart regulars decided to run up to Chiefland for the weekend, so New Moon attendance at Withlacoochee River Park was light. Joe was joined on Friday by Tim & Mary Ann Harris in their land yacht and your Intrepid Field Reporter in his humble travel trailer. Tim brought his newly hand-built 20" Dobsonian (sweet!) while I

settled for my 127mm (5-inch) refractor. Unfortunately, I forgot my counterweight at home (duh!) so I was limited to wide-field imaging by mounting my DSLR camera on a Star Adventure Pro mount.

The weather was hot (feels-like temps made it to three figures!) and scattered cumulus made their appearance in the morning. The clouds steadily increased until it was mostly cloudy and rain showers were building all around us. By mid-afternoon we were treated to a gusty down-pour accompanied with the usual light and sound theatrics. Rainwater gathered in some extensive puddles, but as usual the Withlacoochee Plains drained quickly.

After the rain Bret Brennan showed up with his 3-inch refractor and a sweet suite of imaging equipment, all controlled with his iPad. The clouds moved quickly off to the northeast and we were presented with mostly clear skies. Imaging was good, but high levels of moisture aloft made the seeing a little soupy.

Saturday morning dawned bright and clear. It was the Summer solstice, the shortest night of the year, so when I checked the skies at 5:00 am it was already getting light. I watched radiation fog slowly built up to about 10 feet or so. Kind of cool so see, but it was still very warm.

Bret had already left, and everyone else (all three) were still ensconced in their abodes, so I built a pot of coffee and a little breakfast, then headed south to retrieve my missing counterweight. By the time I returned the little puffballs were making their appearances but were increasing much more slowly than the previous afternoon.

Several very impressive thunderstorms developed to our east, but thankfully we were spared any weather drama. But a breeze failed to develop and setting up my refractor proved to be an endurance event with temperatures even a bit warmer than Friday. But I prevailed, and a cool shower followed by a short power nap put everything to right.

Les Gatechair and Eric Grossman arrived for the evening shortly before dusk, and the cloud gods (for once) cooperated by clearing the clouds before twilight. Nice! Joe was having a field day acquiring some nice images. Because I am trying to learn how to use CPWI as a control program, it took me a little while getting everything under control. Thanks to Tim for all the help. I got a good string of 60-second lights of Antares, but when I moved to scope to M5 all I could get was blank images! I poked my head out of the shelter and discovered the cloud gods have a twisted sense of humor. They had blanked out the entire southern viewing area up to about 45 degrees above the horizon!

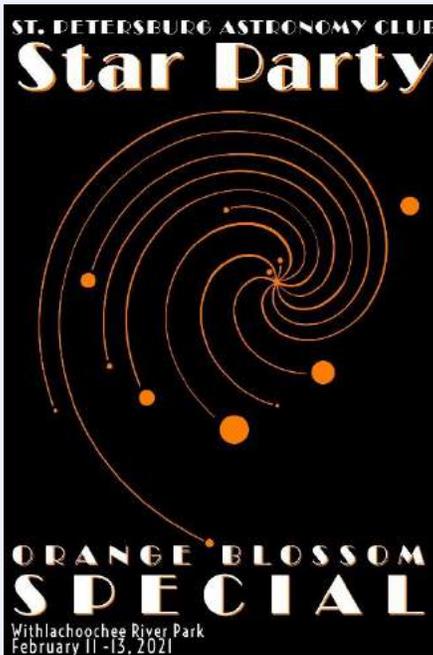
The bugs were not horrible for our weekend. They were terrible, but not horrible on the spectrum of bugginess. A short shower in Deep Woods Off seemed to do the trick. The Park, as usual, was wonderful, so I encourage everyone to join us, if only for an evening, for our next New Moon Weekend. The Moon is currently scheduled to be new 17 - 19 July but keep checking the calendar on the SPAC web site in case anything changes.

Need I say it? Of course, clear skies are guaranteed.

Time to submit for OBS T-shirt art is nearly over!

★ The SPAC board is implementing a change to the t-shirt artwork selection process for the 2021 Orange Blossom Special starparty, with the hope of offering a broader spectrum of designs and a final choice vote by SPAC members. **Any and all members** who would like to submit an OBS 2021 t-shirt logo design, please [email your artwork to the editor](#) by August 1st.

Here are some samples thus far.



GUY EARLE



Here are some fantastic astrophotography highlights from our fellow SPAC members. Anyone who would like to share his or her work, I encourage you to [email the editor](#) to submit for future newsletters or share them on our [SPAC Facebook page](#).



Left: **Comet NEOWISE**
from Wyoming by **Mike Davis' stepson**

Below: **Jupiter and Europa** from
Riverview on 7/15/20 w/'59
Cave Astrola 10" @ f/14.2
w/ASI290MC by **the editor**



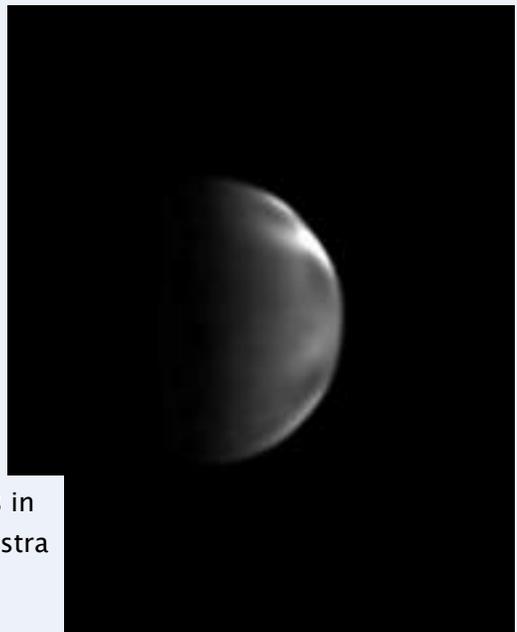
Left: **Comet Neowise** rising over St. Petersburg FL.
Date: 13 July 2020
Meade 130mm APO Triplet with 6000 Focal
Reducer
Celestron GCX Mount
Orion StarShoot Guidescope + PHD2
Canon 90D
Image Processed and Cropped with Adobe
Lightroom by **Antonio Paris**



Left: **Jupiter and Callisto** with 4/5 seeing ↻. A little bit of detail came out on Callisto itself! A new Moonlite focuser really made a huge difference in getting the shot. Best 33% of 7.8k frames (a little over 2 minutes), stacked in AS3! and processed in Registax and PS **by Naresh Singh**



Around: **Four images of Venus** in various phases, refined using Astra Image **by Greg Shanos**



Left: **Saturn** from the morning of 06/10/20.
Celestron 6SE with Alt Az mount
ZWO asi 224mc camera
SharpCap>PIPP>RegiSat
by Dan Dawson

National Weather Service

SHIRLEY VUILLE



The 2020 Atlantic hurricane season is June 1 – November 30. Now is the time put together a hurricane survival kit. Pinellas County has produced a guide to help you make these preparations and can be found at this link:



http://www.pinellascounty.org/emergency/PDF/All_Hazard_Guide.pdf

“Challenge Under the Stars”



U.S. Borax is hosting the "Challenge Under the Stars" which aims to encourage families to learn about astronomy by participating in fun and educational challenges. The contest, open to all, will take place from now through the end of August, across the United States. The challenges will call upon the star gazers' skills by asking them to draw a picture, solve a puzzle or test their memory by answering questions. Participants have a chance to win over \$5,000 in prizes, including telescopes and binoculars to further their new passion.

If you wanted to add a link to the challenge from your web site, the URL is [HERE](#). Or, share with your network on [Facebook](#).

SPAC Mirror Lab Report

MICHAEL DAVIS



The mirror lab is getting ready to do a run to Spectrum Coatings to get a group of mirrors coated and re-coated. If you have a mirror that needs re-coating, get in touch with myself or another member of the mirror lab to get your mirror in the group for re-coating.



The 12 inch Meade Lightbridge OBS raffle scope is coming along. The mirror from the scope is one that will be going to Spectrum for re-coating. Last month the work on the new base was going well. Since then I have been tinkering with the electronics for the after-market tracking system that came with the scope. I neatened up some of the wiring and tested it out. It seems to be working. We'll know for sure how well once the tracking system is attached to the new mount.

What have I been up to? My big 17.5 inch DOB now has a Sky Commander computer installed. Yes, I have finally attached a computer to my telescope. Hell must have frozen over.



Attaching the Sky Commander wouldn't be much of an accomplishment to crow about except that I had to fabricate all the mounting hardware myself. The mounting kits were out of stock. They didn't know when they would get more in, and they didn't know if they would be operational to ship them given the Corona Virus lockdown. So rather than wait, maybe months, I fabricated my own hardware. The first photo shows the completed installation on the scope. It only took a couple of days, and I saved a little money.



The other photo is a close-up of the encoder installation on the altitude axis. Plus I had to raise the OTA by making wood crescents to go in the original trunnion cutouts in the rocker box. The scope wasn't originally designed with having an encoder on the azimuth axis in mind. I needed to raise it by about 1.5 inches to make room for the corner of the mirror box to clear the azimuth encoder.

It works! My home-rolled mounting hardware worked perfectly. I was able to locate several deep sky objects I likely would not have been able to locate through the light pollution here at home without the Sky

Commander. The light pollution in central Pinellas County is so bad that I can't even star hop very well. The Sky Commander is going to be a big help. I can't wait to get it out under a dark sky and try it out.

You can follow what I am doing on my blog at <http://www.mdpub.com>. If you have a project you think should be showcased here, email me at astronomermike@gmail.com. Put Mirror Lab submission in the subject so it will stand out from the tons of other emails I get.

That's all for this month. See you next month.

Dark Sky Association

LEEANN MUSZYNSKI

Get out and observe the night sky! Can YOU see the stars?

★ Light pollution has been a known issue for decades. But we've only recently been able to access the tools and technology to better understand which sources contribute the most to light pollution, and what impact that has on the natural world.

Take part in the [Globe at Night](#) campaign. This worldwide campaign asks individuals to measure the quality of the night sky where they live. You don't have to leave your backyard (or porch or patio) to take night sky measurements, and reporting your results takes only a moment using the

Globe at Night web app. Your reported measurements are added to other reports from around the world where they are held in an open-source database. With these measurements, scientists can see how the quality of the night is changing all around the world. **Your measurements help the International Dark Sky Association develop targeted policies and guidelines to help solve the problem of light pollution.**

Help protect the night. Join the Globe at Night campaign!

July 12–23, 2020, featuring the constellations Hercules & Bootes.

www.globeatnight.org



Dark Sky Friendly Home Lighting Program

You can assess and take action to improve your outdoor lighting and certify your home as Dark Sky Friendly by clicking [HERE](#).

SPAC Business Meeting 

Our next business meeting is Wednesday, August 12th, at 8:00 PM via conference call; details upon request.

All interested members are invited to attend. All club business decisions are made at the business meeting so as not to encumber the general meeting.

Officers & Directors

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|------------------|--------------------------------|--------------|
| President | Brad Perryman | 727 420-1957 |
| Vice Pres. | Paul Krahmer | 727 535-5827 |
| Secretary | Shirley Vuille | 727 864-2624 |
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| Dir.-at-Large | Kyle Brinkman | 727 455-6931 |
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| SPACE Editor | Guy Earle | 813 785-1972 |
| Public Relations | John O'Neill | 727 637-5945 |
| Membership Chair | Shirley Vuille | 727 864-2624 |
| Mirror Lab Chair | Paul McNabb | 727-345-5713 |
| Outreach Chair | Jim Hunter | 813 507-8415 |
| Star Party Chair | Mike Partain | 859 339-0828 |
| Librarian | Ralph Craig | 727 384-2086 |
| Club Webmaster | Jack Fritz | 813 508-5680 |

Click on the name to send email

Recognition of Patrons & Benefactors:

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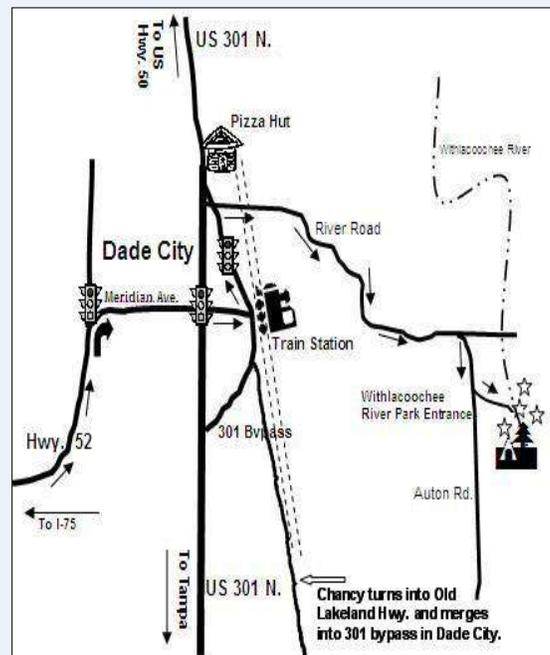
| | | |
|-------------|--------------------------------|--------------|
| Editor | Guy Earle | 813 785-1972 |
| Reporter | Kelly Anderson | 813 672-2751 |
| In the News | Steve Robbins | 386 736-9123 |
| Mirror Lab | Ralph Craig | 727 384-2086 |

Withlacoochee New Moon Weekends

There's no need for reservations. However, the park closes at sundown, so you will need to arrive before then. The park rangers will give you the gate-code once you're inside the park. Please do not call for the gate code as they are not allowed to give it out over the phone.

Reservations are not necessary. Please print and display our [Friends-Of-The-Park Pass](#) on your dashboard.

Please join us! All astronomy enthusiasts are welcome. You do not need to be a club member to attend. Please refer to our [Club Calendar](#) for details and scheduled dates.



Withlacoochee River Park - Dade City, FL

Detailed directions can be found at:



St. Petersburg Astronomy Club Membership Form

Membership in St. Petersburg Astronomy Club, Inc. (SPAC) is open to anyone, regardless of age, who is interested in astronomy. Benefits of membership include a monthly subscription to the SPAC Examiner newsletter, reduced camping rates and use of the club’s bunkhouse at our dark sky site at Withlacoochee River Park, the ability to serve on the SPAC board and voting privileges. Dues are considered donations and are non-refundable. Membership options are available as listed below.

You are now able to choose how you wish to join or renew your membership:

- **Preferred On-line Website Option: New instructions as our website has been updated.**

Go to https://www.stpeteastronomyclub.org/Sign_In.php on the SPAC website where you can join, view and update your membership profile, provide payment, and **print your membership card.**

- **US Mail Option: Takes more time to process manually because we are all volunteers.**

Complete the attached membership form and send it along with your payment to:

Jim Hunter
17316 Oak Ledge Drive
Lutz, FL 33549.
(Checks should be made payable to SPAC, Inc.)

Adult 1: _____ Adult 2: _____

Street: _____

City, State, Zip: _____

Home Phone: _____ Cell Phone: _____

Email Address: _____

Number of Children under 18: _____

Memberships:

Single: \$ 30.00/YR. Includes one adult, minor children, the “SPACE” newsletter, and all the rights and privileges of membership.

Family: \$ 35.00/YR. Includes two adults, minor children and the above rights and privileges.

Patron: \$ 50.00/YR. A Patron member is entitled to the above rights and privileges.

Benefactor: \$100.00/YR. A Benefactor member is entitled to the above rights and privileges.

Student: FREE. SPAC offers free membership to full time high school and college students.

Expected date of graduation: _____

Total Submitted: \$ _____

Your SPAC Membership Card is required for reduced fees at the campground.