



April 2020

Editor - Guy Earle

The St. Petersburg Astronomy Club has been the center of family astronomy in the Tampa Bay Area since 1927. Our 278 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*



I hope everyone is staying safe and practicing social distancing to protect yourself and others from the Covid-19 virus in this unprecedented time in our history. Many amateur astronomers have relished the 'stay at home' order to spend more time on our favorite hobby. Some are taking the time to improve their astro-imaging technics. We have seen an increase of astrophotography posts on our Facebook page. It has also been a great place for members to ask questions about equipment and imaging software.



Before the 'stay at home' order, we had family visit from Tennessee. I brought my telescope into the backyard. For my 7-year-old niece, it was her first time looking

through a telescope. The first question she asked was why we could not have the outside lights on? I, of course, explained the importance of how dark adapted vision plays in seeing dim objects in the night sky. Later in the evening I could not figure out why she kept telling everyone how big her 'pimples' were, until I realized she was talking about the pupils of her eyes. She was excited to learn more and her sense of wonder increased as we moved through the sky, viewing Venus, Orion's Nebula, open star clusters and Shirley's Dragonfly asterism. I went over the easy to find constellations in the night sky and she soaked it up like a sponge. By the end of the night, she was able to teach her father everything she learned.

I relish the sense of community we have in the club, as seen on Facebook, and at star parties, within the club and in the community. My hope is that after the pandemic scare is over, we are all able to

return to normal as soon as possible. Please take care of yourselves and your loved ones.

**Editor’s Note**

In 1984 the movies *Ghostbusters* and *Terminator* reigned supreme at the box office, while Prince’s *Purple Rain* and Michael Jackson’s *Thriller* ruled the airwaves. MTV still meant something, *Transformers* was the primetime cartoon, and SPAC had their vintage dot matrix logo on the Examiner newsletter, which I’ve put in this month’s edition as a nod to the past.

**General Meeting**

As in March, sadly this **month’s general meeting and New Moon observing weekend** at Withlacoochee River Park are both **cancelled** due to concerns of COVID-19. That also means there will be **no SPAC Spring Picnic** as a result. Stay tuned for club meeting updates, and everyone please be safe.

The next tentative meeting will be held on Friday, May 22<sup>nd</sup> at **8:00 PM**, at St. Petersburg College, Gibbs Campus, 6405 5<sup>th</sup> Avenue North.

**May Astronomical Events**

STEVE ROBBINS



Monday, May 4 is the Eta Aquarid Meteor Shower with a ZHR of about 60. Being three days before the full moon, the moon will set before dawn giving a narrow window of good visibility.

Tuesday, May 5, the Moon is at perigee, 359,700 km from Earth.

Monday, May 11, the Moon is at greatest southern declination, -24°.

Tuesday, May 12 through Thursday, May 14, watch the Moon, Mars, Jupiter and Saturn dance with risky social distancing for your pleasure.

Thursday, May 14 Mars will be 3° north of the Moon.

Monday, May 18, the Moon will be at apogee, 405,600 km from Earth.

Friday, May 22, find Venus .9° north of Mercury.

Monday, May 25, the Moon will be at greatest northern declination +24.1°.

Wednesday, May 27 the Moon will be 1.8° north of the Beehive Cluster.

May’s full moon is called the Flower Moon, hopefully for obvious reasons.

**The Moon**

Full Moon – May 7

Third Quarter – May 14

New Moon – May 22

First Quarter – May 29



## Space Exploration News

*STEVE ROBBINS*

★ Oh, how the once mighty have fallen. Six years ago, Boeing's proposal for the commercial crew contracts to ISS, was rated "a very comprehensive, credible plan." Although expensive, Boeing's proposal was judged "highest overall Mission Suitability score and the highest adjectival ratings of Excellent for each of the two most heavily weighted subfactors,"

Fast forward to 2020, and the Gateway logistics contract. Oh, they're still expensive. But NASA judged Boeing's proposal "highest priced and the lowest rated under the Mission Suitability factor, while additionally providing a conditional fixed price, I have decided to eliminate Boeing from further award consideration." Enough said.

Psyche magazine just published an intriguing article on how gods beat out discovering astronomers' names in naming of solar system objects. Who was the central character in the drama? It was John Herschel, son of William Herschel, discoverer of the first new planet since antiquity. Of course the planet was named Herschel.....for now. Read it and marvel.

Guess what country is making a play for inclusion in the major spacefaring nations of the world? It's the United Arab Emirates, which is preparing its Hope Mars Expedition, also called the Emirates Mars Mission. This will be basically a sophisticated weather satellite built by a collaboration of the University of Colorado Boulder, University of California, Berkeley, and Arizona State University. This is an exquisitely planned

expedition to monitor aspects of Mars not well studied up until now. Good on them.

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## Notes from Your Webmaster

*JACK FRITZ*

★ Did you know that you can keep your contact information up to date by going to the Members Only on our website? There you can view/update your profile, pay dues online, and print your membership card. Your membership card will be needed to get the reduced camping rate at Withlacoochee River Park.

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## INTERNATIONAL DARK SKY WEEK

### Celebrate the night virtually!

April 19-26, 2020

*LEANN MUSZYNSK*

★ International Dark Sky Association invites you and your family to engage with authors, educators, artists, and scientists from around the world who are excited to share their passion for astronomy, our cultural connection to the stars, life in the dark, and how we can work together to protect the night sky.

Presentations will be broadcast live throughout International Dark Sky Week. To Learn more and review the schedule of events, visit [idsw.darksky.org](http://idsw.darksky.org)

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

Light pollution has been a known issue for decades. Recently, however, we have been able to access the tools and

technology that help us understand which sources contribute the most to light pollution and what impact it 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 April 14–23, 2020.

[www.globeatnight.org](http://www.globeatnight.org)

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## SPAC Astrophotography

*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](#).



**Target:** April 3, 2020 conjunction of Venus with the Pleiades by **Greg Simpson**.

It was rather clear around sunset and slowly began clouding up, then cleared again. This photo was taken with my FDR-AX100 4K camcorder in photo mode which gives a 20-megapixel photograph.



**Target:** **M101**, the Pinwheel Galaxy about 21 million light years away in the constellation Ursa Major, the "Great Bear." Taken from the Astronomy Village near Chiefland, FL two weeks ago with a 102mm Explore Scientific APO refractor and Canon 70D DSLR by **Kelly Anderson**

**Target:** the **Orion Nebula**. The three primary elements in the nebula are ionized Hydrogen, Oxygen and Nitrogen mixed with dust and starlight by **Antonio Paris**



**Target:** **Bode's Galaxy (M81)** and the **Cigar Galaxy (M82)** in HaLRGB true color. 4 hours (64 x 30s HaRGB each, 64x 60s lum) @ 400mm f/2 last night. The glow from the half-moon took away some contrast, but you can still see the dust lanes in the spiral arms and the Cigar's core detail

Celestron RASA 8 / tuned CGEM II / ZWO ASI1600MM-Pro / ZWO ASIAir Pro / ZWO 30mm guidescope / ZWO ASI120MM-Mini / Baader Ha LRGB by **Naresh Singh**

**Target:** **NGC 5128 CentaurusA**  
Date: 2020-03-20  
Location: Chiefland, FL  
Exposures: 120sec x39  
OTA; Celestron Rasa 11  
Mount: Celstron CGX  
Camera: ZWO ASI 1600MC  
Filter: IDAS V2  
— in Chiefland Astronomy Village  
by **Jaime Kenas**





**Target:** The **Snake Nebula** (Barnard 72) in Ophiuchus, taken with an ES 117mm APO in Chiefland, FL by **John O'Neill**



**Target:** **Gassendi** in shadow.  
1959 Cave Astrola 10" f/7.1 w/ASI290MC & IR cut and 82a filters by the **editor**



**Target:** **Leo Triplet** (M65, M66, and NGC 3628). L 60s x 30, RGB 60s x 12 each, H-alpha 120s x 12, total 90 minutes. Explore Scientific ED102 telescope, ASI1600mm Pro camera. From the back yard. — in Saint Petersburg, Florida by **Omar Rahman**

## Hot deal from Orion Telescopes

Fellow SPAC member, Greg Simpson, brought a very good deal to my attention that he wishes to share with everyone. Orion currently has a sale on a set of three, planetary filters; those being an IR Pass, and UV, and a Methane for \$89. By comparison, Baader filters are quite costly, so these can provide a very economical alternative. The IR Pass allows only Infrared light to pass, the Ultraviolet is great for imaging clouds in Venus (I just did my first attempt at UV and IR and put the photo on our Facebook page), and the Methane provides a unique view of Jupiter's Great Red Spot among some of the main uses for these filters.

You can check out the ad on Orion's website [here](#). Thanks for the head's up, Greg!



## From the Editor's Phone

*GUY EARLE*

★ So while answering a Facebook question with SPAC member Pat Devoid, it occurred to me that I'd share my own

astronomy apps that are on my phone (Android Galaxy s9+). Perhaps you'll find them of interest to go along with those you might already have on your phone.

### 1. Stellarium

Many people have basic astronomy apps that, when you hold the phone up at night, shows you the constellations. While interesting when starting out, I found I stopped looking at the constellation art long ago and prefer an app that has astronomy teeth and provides useful observations information in a simple format. I've used this app for years, for both the occasional "what's up" as I'm walking in the house to using it at Withlacoochee River Park observing weekends on dark nights. Back when I first got it the app was free (now called Stellarium Mobile Sky Map), but now there's a professional version for \$9.99. I haven't checked it out yet, but you can't go wrong with the free version.



### 2. Luna Solaria and Moon Phase Calendar

You can never have too many Moon apps, right, Doug? Both are free, and Luna Solaria gives you a great snapshot of tonight's Moon, with the day in the cycle and upcoming phases. I only wish the Moon itself had more detail so I could tell which craters are in that night's particular



phase. The Moon Phase Calendar is very similar, more data driven, with a handy phase calendar, similar to what we have in the newsletter.



**3. Moons of Jupiter**

This app is a good resource when planning to view a transit of the Galilean moons. There's a handy zoom feature and a time-lapse so you can plan your observing, or in my case imaging, session down to the minute. The one thing that would make this outstanding is if the app took into account the Great Red Spot, but to date I have not found an app that does both. To know when the GRS is out, I used a resource calculator on the [Sky and Telescope website](#). There is a similar app for Saturn's moons as well.



**4. The Weather Channel, MyRadar, Weather Underground, and Dark Sky**

No icons on this one, as there are too many, but anyone starting out in astronomy or even a veteran has some kind of weather app on their phone. The Weather Channel isn't bad and is an old staple, MyRadar is good for determining exactly where the rains are and if you need to throw the dob in the car pronto, and Weather Underground is a good, all-

around app for determining the evening's forecast. Dark Sky is very good too, but as it was just bought by Apple, its future is highly in doubt.

**5. Clear Sky Clock**

There's no app for Clear Sky Clock, now called [Clear Dark Sky](#) (I don't know when it changed, likely over a decade ago but I still call it by its first name—I still call it the Amalie Arena the Ice Palace, so "meh"), but this is still one resource that is essential for planning an observing session. More right than it is wrong, it gives you an astronomical breakdown of the night by seeing and transparency, in addition to other factors such as humidity. Too bad they don't have a mosquito setting on it!



If you have a cool app that you'd like to share, please send me an [email](#) and I'll put a part II in next month's issue. Enjoy and clear skies!

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**SPAC Mirror Lab Report**

MICHAEL DAVIS

★ Hello Everyone, Looks like I have been nominated to do the Mirror Lab news report for the time being. Since the Lab is currently homeless, and all the members are scattered and in quarantine, I don't have much to write about except what I have been doing myself while



stuck in quarantine. You folks are probably going to quickly get tired of hearing only about what I've been doing, so I need anyone out there doing any ATM work to submit their stories and photos to me so I can share them with the rest of the membership. You can email me at [astronomermike@gmail.com](mailto:astronomermike@gmail.com). Put something like Mirror Lab submission in the title so I can sort it out from the rest of the email I get.

So what have I been up to while in quarantine? Well it's been 25 days in quarantine for me as of today. My wife Leslie was exposed to someone who was sick early on in the pandemic. We were advised to self-quarantine our entire family for 14 days as a precaution. Fortunately none of us got sick. By the time our two weeks were up, the rest of the country was quarantining. So we just kept on doing what we had been doing. We've been really busy. Leslie sees this enforced staying at home as a chance to get done all the home improvement projects she's wanted to do for the last 10 or 12 years. We've painted the entire house, inside and out. We've rebuilt a deck. We've done landscaping. We cleaned out and rearranged the garage enough to actually park both our vehicles in it. Plus we've done a lot more. In between all those honey-do projects I have managed to sneak in some ATM work. Quite a fair amount actually.

The first project I've been working on is rebuilding a Meade 12 inch Lightbridge Telescope which was donated by Mike Partain to be raffled off at the next OBS. The scope was in really rough shape when I got it. The tube was rusting badly. Meade also made a lot of poor design decisions on this early generation Lightbridge telescope.

There was a truly shocking amount of bright white painted structure and shiny metal in the optical path. I removed all the rust and



repainted the entire optical tube assembly, inside and out. I also painted the shiny metal and bright white tube end rings black. There is still quite a to-do list on this telescope. The mirrors need recoating. I haven't been able to start on rehabbing the base for the scope yet. It is made of particle board, which of course is falling apart. Parts of the base may be salvageable, but most of it needs to be replaced with high-quality plywood and properly sealed and finished. I haven't been able to get out to shop for plywood and sundries, so that work hasn't started yet. I am also hoping to eventually get some help from other members of the Mirror Lab who are fantastic wood workers.

Next I have been working on building my own version of the Robotic Focault Tester that we had at the lab. Not only have I been putting together the hardware, but I have been working on modifying the software to work on more modern computers. It is just about ready for prime time. Everything almost works. Another modification to the original Robo system I

am trying to make is to get it to work with mirrors faster than about  $f/4.5$ , which is about the fastest  $f$ -ratio the Lab Robo could handle. The jury is still out on whether I can get that working.

The other thing I have been working on is slumping some 16 inch, fast, thin mirrors in my kiln. I was targeting making 3/4 inch



thick mirror blanks that were slumped to  $f/3.5$ . They actually came out a little faster than that at about  $f/3.3$ . Hitting the exact radius of curvature I want while slumping is still a bit hit or miss. However,  $f/3.3$  is close enough to my target that it didn't take much rough grinding work at all to bring one of the mirrors right to target. On the left is one 16 inch mirror blank fresh from the kiln slumped to about  $f/3.3$ . On the right is a second blank that was rough ground to  $f/3.5$  and then finish ground down to 40 micron grit. Once I get through the 25 micron fine grinding it will be time to begin polishing it. This is why I need an improved version of Robo that can handle faster mirrors. For now I am not doing anything with the second blank. I may want to try going faster than  $f/3.5$  in the future. If anyone else would like to try their hand at making a fast 16 inch mirror which has

already been pre-slumped to about  $f/3.3$  (eliminating at least 95% of the rough grinding work) let me know. Maybe we can work something out.

That's it for this month. You can follow



what I am up to on my blog at <http://www.mdpub.com>. Remember to send me information on what you are doing at [astronomermike@gmail.com](mailto:astronomermike@gmail.com) so I can showcase it here.

### Free Item

★ I just don't want to see this go to waste, but I know I won't use it and I'd like to see someone enjoy this vintage item. This was included in a box with my recent purchase of a 1965 Criterion. It's an Edmund Starfinder with paperwork. If interested, [email the editor](#) and we'll figure out a way for you to get it.



**For Sale**

★ Infinity Astro color camera, \$650.00, if interested please contact Joe Canz at 813-928-1406. The Rosette Nebula was imaged with the Infinity camera.



★ Tom Leek is selling a 6" Edmond F7 Reflector on a cast iron (on wheels) equatorial mount. Steel Tube. It Has a 12.5 and I believe a 7.5mm eyepieces (cannot read exact size on it), both 1.25." Has a cool 1" diagonal finder. The scope and base was painted by my nephew. \$400.00.

I also have the 16" ORION GOTO dobsonian with wheel barrel kit and shroud. Everything Works Great. I Have \$4000.00 Into It Selling For \$2500.00.

Thank You. Thomas Leek 727-845-7776. New Port Richey, Fl.



## SPAC Business Meeting

Our next business meeting is Wednesday, May 13th, 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

President	<a href="#">Brad Perryman</a>	727 420-1957
Vice Pres.	<a href="#">Paul Krahmer</a>	727 535-5827
Secretary	<a href="#">Shirley Vuille</a>	727 864-2624
Treasurer	<a href="#">Jim Hunter</a>	813 507-8415
Dir.-at-Large	<a href="#">Kyle Brinkman</a>	727 455-6931
Dir.-at-Large	<a href="#">Steven Gaber</a>	727 215-0464
Dir.-at-Large	<a href="#">David Richmond</a>	727 692-9831
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Public Relations	<a href="#">John O'Neill</a>	727 637-5945
Membership Chair	<a href="#">Shirley Vuille</a>	727 864-2624
Mirror Lab Chair	<a href="#">Paul McNabb</a>	727-345-5713
Outreach Chair	<a href="#">Jim Hunter</a>	813 507-8415
Star Party Chair	<a href="#">Mike Partain</a>	859 339-0828
Librarian	<a href="#">Ralph Craig</a>	727 384-2086
Club Webmaster	<a href="#">Jack Fritz</a>	813 508-5680

Click on the name to send email

## Recognition of Patrons & Benefactors:

Clifford B. Benham	Benefactor
Walter Brinkman	Benefactor
Andy Demartini	Benefactor
Jack & Roni Fritz	Benefactor
David Knowlton	Benefactor
David & Tara Pearson	Benefactor
Ronald & Sterling Algieri	Patron
Bruce Berger	Patron
Michael Coate	Patron
Ralph & Christine Craig	Patron
Peter & Jaclynn Dimmit	Patron
Joseph & Pamela Faubion	Patron
Steve & Cindy Fredlund	Patron
Richard & Mary Garner	Patron
Valentino Hernandez	Patron
Charlie & Linda Hoffman	Patron
Scott & Beth Irwin	Patron
Matt Labadie	Patron
Laura Lanier	Patron
Robert Myers	Patron
Antonio Paris	Patron
Brad & Lisa Perryman	Patron
Alan Polansky	Patron

David & Rusty Richmond	Patron
Anthony Staiano	Patron
Wally & Ramona Vazquez	Patron

## Examiner Staff

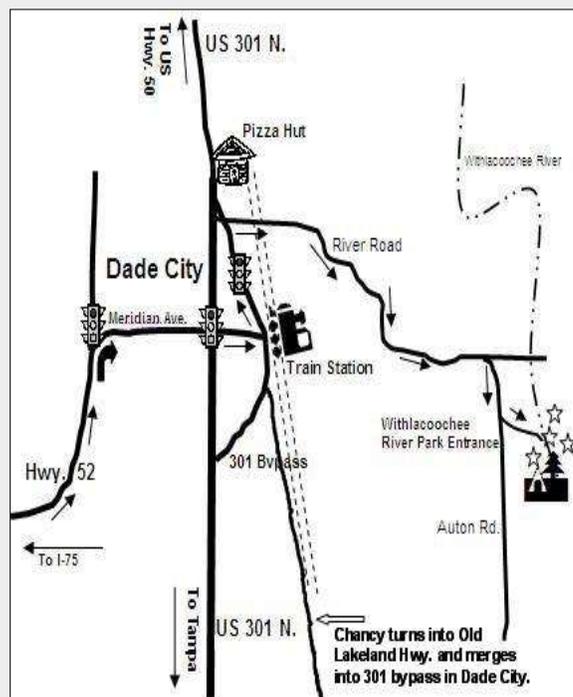
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In the News	<a href="#">Steve Robbins</a>	386 736-9123
Mirror Lab	<a href="#">Ralph Craig</a>	727 384-2086

## 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](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.**