



SPACE

St. Petersburg Astronomy Club **Examiner**

April 2025

Editor - Guy Earle

The St. Petersburg Astronomy Club has been the center of family astronomy in the Tampa Bay Area since 1927. Our 337 adult members are dedicated to promoting and sharing the wonders and science of astronomy. We host a dark-sky star party each New Moon at Withlacoochee River Park, along with local star parties, telescope-making workshops, science lectures, astronomy lectures, educational outreach sessions and much more.

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Messier 51, Whirlpool Galaxy taken with a ASI533MM camera with Antlia V Series filters on a 10" Orion Newtonian reflector telescope. Over 900 subs from a Bortle 7 backyard observatory in Lakeland, FL, by Steve Miller



May Preview

For May, we have the great privilege of being joined by Dr. John Spencer, Deputy Principal Investigator from the Southwest Research Institute on NASA's thermal emission imaging system of the Europa Clipper, a spacecraft launched in October to study Jupiter's moon, Europa.



The spring picnic, which we had planned for the March New Moon, was postponed due to weather to the New Moon weekend in May. We will not be combining it with the general meeting which is on the 22nd. May is traditionally a very dry month, so hopefully the weather will cooperate that Memorial Day weekend. The cookout will be earlier than we planned in March with the swap meet afterwards, all in plenty of time before sunset.



April General Meeting

This month's general meeting will take place on Thursday, April 24th at 7:30 PM at **St. Petersburg College, Gibbs Campus**, 6605 5th Avenue North, Natural Science Building, Classroom 236. The meeting will also available virtually. This month, **Carmen Manfredi** will be presenting on **Understanding Tropical Weather**.



Join Zoom Meeting [HERE](#)

Meeting ID: 834 8435 3027

Passcode: 092807

The club's **New Moon observing weekend** is on April 25th and 26th at [Withlacoochee River Park](#) east of Dade City.



New SPAC Members

We would like to welcome Ron Collins, Stephen Whitton Jr., James & Scott Pressley-Racknor, Tabatha & Bill Dimas, and Jeff Boehler to our family of members.

Examiner Staff

Editor	Guy Earle
Space News	Steve Robbins
Field Reporter	Kelly Anderson
Mirror Lab	Ralph Craig
Image Gallery	Peter McLean
Mirror Lab	Mike Davis
	Allen Maroney

President's Message

Greetings, everybody, and I hope everyone is well for the upcoming holiday. Next week will be our general meeting at the St. Petersburg College followed by our new moon weekend at the Withlacoochee River Park. We will be holding our spring picnic next new moon for the month of May, which is on the weekend of May 23. We will send out an email to everybody to remind and get RSVPs for the picnic. Along with the picnic, we will also have a swap meet for astronomical equipment. I hope to see everyone out there for the picnic and swap meet in May.

This year's astronomy season has been a little rough with the cancellation of our annual star party in February due to hurricane damage at the park. We have also seen a drop in overall membership renewals since the cancellation of OBS. I'd like to encourage everybody to take a moment and find ways to reach out to other Astronomy enthusiasts and tell them about our club. Last week we had some good news from the park. The plans to replace our damaged clubhouse, continued to progress up the chain command for Pasco County. Our ultimate goal is to replace the clubhouse with a shed on a slab with electricity out on the north end of the field. This This will be important because we can then bring out the club's two dobsonian telescopes for use during the new moon weekends. We will keep you posted as things progress.

With the extended daylight our outreach program is coming to an end until the Fall. Once again, the hurricanes curbed outreach participation, but for those events that we were able to hold, we had good turnout. If anyone would like to volunteer to help without public outreach, please contact Steve Gaber to get on the list. Speaking of outreach, I received a phone call from Josh at Van life today. This is a separate group that holds an event on our observing field at Withlacoochee shortly after our annual star party. The event involves classy camper vans and is held over a three day period sometime in February or March every year. Josh asked if we had any members who would be interested in helping out with the event for next year. They pay \$130 a day for those who would be interested in working the event. We've had a few of our members help out over the years as volunteers, including setting up telescopes. If you're interested in doing something like this please send me an email. Josh.

As we get to our summer months, I know many of you will be traveling, and hopefully some of you will get to attend a star party outside of Florida. Carli and I were able to sign up for the Cherry Springs star party in Pennsylvania. We will be heading there in late June for a week in



the mountains with no bugs and cool temperatures!

Lastly, I noticed during last month's new moon weekend that there was a distinct change in the field that has been taking place over the past few years. As many of you know, there is currently a revolution in Astronomy equipment, a.k.a. the Seestar and Dwarf telescopes. For the first time in 20 years, I only saw one visual scope set up for the new moon weekend. It wasn't mine because we were testing out a new camper and I did not bring my scope, instead I brought my Seestar. It's certainly an interesting time as a lot of things are changing. However, I do see this is an opportunity for us as a club to head in a new direction for the hobby. Matthew and Guy's idea a few months ago of the Very Small Array is just one example of some of the opportunities that we now have with the new technology. It was interesting to know that during the new moon weekend one of the new members of our club asked me about whether or not we were going to have something similar for our new moon weekend. We plan to set up something like the very small array for the main new moon weekend. More importantly, we need to find ways to work together so we can help each other. Learn the new technology and find creative ways to utilize it to grow our club. If you have any ideas or would like to share your knowledge with the club, please feel free to reach out to me or Guy and let's see what we can do together.

Clear skies,

Mike

SPAC Raffle Telescope

Congratulations to **Laura Foley** for winning our beautiful Mirror Lab raffle telescope!



March General Meeting Recap

We did not hold a March general meeting, as we were intending to combine it and the New Moon weekend last month as our Spring Picnic. The weather forecast was not good and a decision was reached to postpone the event. We also had arranged for a swap meet that same day, asking members from the Far Out Observatory astronomy club to join us. If you've been to the OBS star party in the past, you've seen them there at our swap meet. Also, we are planning on doing a session of the Very Small Array that was done in Chiefland at the end of February, so if you have a Seestar or Dwarf III, bring it out.

So, we will now be holding our picnic on the May New Moon weekend, but we will not be cancelling the general meeting that month. In fact, if you saw up above, we have quite the speaker lined up for our May meeting. April's meeting will be by one of our own, Carmen Manfredi on tropical weather and June's by Bob Stelmock, where he plans to do a live imaging session with the Seestar.

SPAC New Moon Weekend

Field Report

March 29th, 2025

The March New Moon weekend began with an ominous forecast coupled with the rescheduling of our annual Spring Picnic until May's New Moon Weekend. Our regular intrepid field reporter was out of action for the month and will be with us in April. Hope you are on the mend Mr. Anderson!

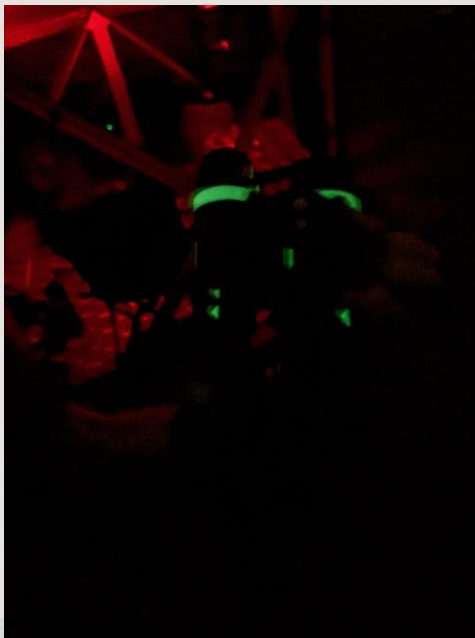
With the gloomy forecast, several members of the club came out early for the week on Thursday. The skies did not disappoint! Tim, Kelly, Bob, Robert, Neil and Joe were all there what we arrived. We had good clear skies and got to work as soon as it was dark. For the first time since I can remember, there was only one visual scope on the field, the 20 inch belonging to Tim. The rest, including me, had either Seestars or an astrophotography set up. Be sure to check out the photos from the weekend on our Facebook page.

Friday night saw a second visual telescope with the late arrival of Peter and Rachel. We tried my night vision scope on Peter's Takahashi and it was interesting but not as interesting as one of our FOO brother, Elrod, and his bino night vision scope....It was amazing and I could have just sat back in the chair and gazed all night long! Tom, Justin (the New guy and I hope I remembered you name right), Mike, Jeff and a few others joined us for the night. We were again rewarded with nice skies. The next morning found most of us packing up ahead of the anticipated weather. Joe elected to stay the night and at about 9 PM, I recieved a taunting text from Joe advising me that the forecast was wrong. Our next NMW is April 25th- 27th. Feel free to come out camp, learn and join the fun.



MIKE PARTAIN





May Lunar Calendar

May 2, Pollux will be 2.1° north of the Moon

May 3, Mars will be 2.1° south of the Moon

First Quarter May 4

May 4 will be the Eta-Aquarid Meteor Shower, ZHR~10 – 20 in the moonless pre-dawn dark sky

May 5, Regulus will be 2.0° south of the Moon

May 7, the Moon will cross the celestial equator headed southward at the Descending Node

May 10, Spica will be 0.4° north of the Moon

May 10, the Moon will be at Apogee: 406,245 km from Earth

Full Moon, May 12

May 13, Antares will be $.4^\circ$ north of the Moon

Third Quarter May 20

May 22, the Moon will cross the celestial equator going northward at the Ascending Node

May 22, Saturn will be 2.8° south of the Moon

May 23, Venus will be 4.0° south of the Moon

May 25, the Moon will be at Perigee: 359,023 km from Earth

New Moon May 26

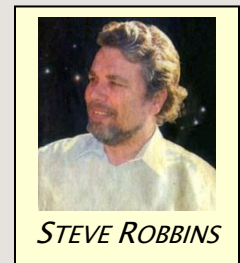
May 30, Pollux will be 2.3° north of the Moon

May 31, Venus will be at Greatest Elongation from the Sun: 45.9° west

May 2025						
««	Sun	Mon	Tue	Wed	Thu	»»
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					3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Space Exploration News

A [team of scientists from Lawrence Livermore National Laboratory](#) in California have made a big splash announcing yet another “break team of scientists from Lawrence Livermore National Laboratory through” in a major leap toward recreating “stars” inside fusion reactors on planet Earth. The devil is in the details. Again, they produced more energy from fusion than the power of the lasers, but did they actually have a net gain compared to all the power that went into the lasers? They didn’t announce that and were murky in response. Also, they used a pellet the size of a pencil eraser for “fuel” with 192 lasers concentrated on the pellet. There was no attempt to contain the fusion reaction with either electromagnetic or gravitational forces, so the fusion could only last for a few microseconds that inertia could retain the necessary pressures. This is not an announcement that sustained fusion reactors are any closer than unicorn steak at Aldi’s.



In nature, stars are formed in gas clouds that have no container at all but their own mutual gravity. When a mass of hydrogen forms at least 16 Jupiter masses, it shrinks until its internal temperature is several million degrees Kelvin. When the protostar has collapsed to the point that it radiates strongly in the infrared, it becomes what is called a T Tauri star. It still has little or no fusion going on but the energy of the hot center has created a solar wind that begins to blow away the material around the protostar to create an empty pocket in its source nebula.



The protostar continues to collapse and build more pressure until the core temperature is between 300 and 600 million degrees Kelvin, the pressure exceeds 4.5×10^8 atmospheres, enough heat and pressure to begin sustained hydrogen fusion, where in a three-step process where first two H-1 atoms fuse to form H-2 plus lots of energy. Then H-2 atoms fuse with H-1 atoms to produce Helium-3 plus gobs of energy. Finally, two He-3 atoms fuse to form stable Helium-4 plus two Hydrogen-1 atoms. During the entire three step process four protons are lost--converted to pure energy according to Einstein's equation $e=mc^2$. There was no attempt to replicate any of the natural processes to enable sustained fusion here.

Very rarely, only 19 times in the past 25 years, in peaceful parts of the Sun's weakly magnetized zones, a presently incomprehensible event can take place. The Sun, through a tiny solar jet can shoot out of these coronal holes and the jets preferentially contain one of the rarest elements in the universe: Helium-3, helium atoms with only three rather than the usual 4 protons.

The Solar Dynamics Observatory and ESA's Solar Orbiter spacecraft detected one of these outbursts with the space craft showing a 200,000 times increase in helium-3 abundance during the outburst. Enter, our Moon. This helium-3 will hit the surface of the Moon and stick there

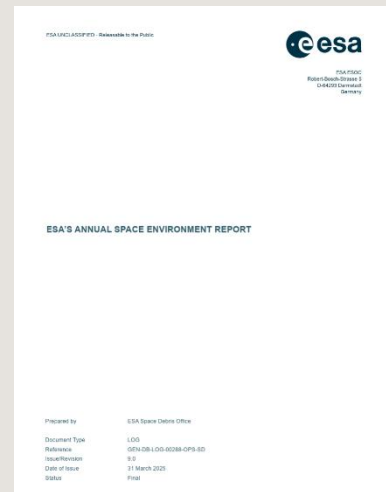
from the Moon's gravity. It is possible that future missions may be able to harvest significant quantities of this from the lunar surface for potential use in cryogenics, quantum computing, medical imaging, neutron detection and nuclear fusion research.



The European Space Agency has just released a

pretty impressive Space Environment Report, effectively a “state of space report” covering all realms of orbital space and the atmosphere of Earth in 2025. Most interesting to me is section 6, End of Life Operations History. They show compliance of goals to reenter payloads within 5 years of end of service by year since 1990. It’s worth a look for that alone. They report that during 2024, 1,200 intact objects reentered Earth’s atmosphere from space and untold thousands of fragments.

However, what I found interesting was [a research article](#) from the publication Earth, Atmospheric and Planetary Sciences, that satellites reentering Earth’s atmosphere are constructed mostly of aluminum. They tend to be completely vaporized at around 60 miles altitude, and the result of their reentry is aluminum oxide gas. This might be highly reactive with Earth’s ozone layer and is of great concern to ESA and NASA. “Given that 10% of stratospheric particles now contain enhanced aluminum, with



many more reentry events, it is likely that in the next few decades, the percentage of stratospheric sulfuric acid particles that contain aluminum and other metals from satellite reentry will be comparable to the roughly 50% that now contain meteoric metals.”

Whatever the effects, we have time to both qualify the severity of the effects and quantify the possible increase of atmospheric metals from reentering spacecraft. It’s good to see that space agencies are ahead of the curve on this situation.

To AI or not to AI

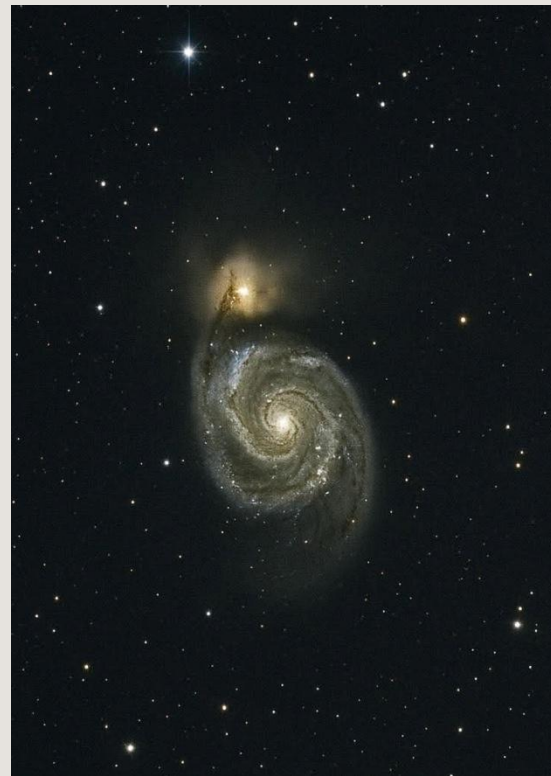


Facebook is our main digital way of communicating with members on a frequent basis, or at least those who shadow or post on our page. I'm a Gen X'er, and I am fully aware that Facebook is, to use an old phrase, not really cool anymore to anyone under 30. That realm is left for Instagram, TikTok, Twitter (I will not say the other name), or whatever new socially connective software comes out. I have, unsurprisingly to any frequent reader of this newsletter, both the Dwarf and Seestar official pages on my daily feed. What I have noticed recently, unhappily, is that many people have been posting images that they ran through one AI program or another to "improve" or "enhance" their image.

What they did, in fact, was make their image not their own, a fake. There was a post made by a group member (not SPAC) that started a mini-rebellion on the Seestar page, where the commentators were vehemently requesting the admins of the page to clamp down on AI images. I'm sure some posters did not realize what they stepped into, but if you're not sure about what I mean, here's the explanation. When astronomers use programs like Siril, Pixinsight, and Lightroom, they are bringing out details in the image that are embedded within the data itself. Sometimes that manipulation can be taken a bit too far, but one quickly learns restraint, being careful not to blow out an image, over-saturate it, or starting changing colors within to something out of a Dali painting. I have found that the best solution, when I think I'm done, is to step away for a bit and come back. That's when I usually see where I've overdone it and pull back. But again, that's taking data within the image, not adding something new. When someone takes an image and runs it through an AI program to "enhance" it, that means the image itself is modified with data not within the original capture, meaning it's no longer their own. Hence, a fake.

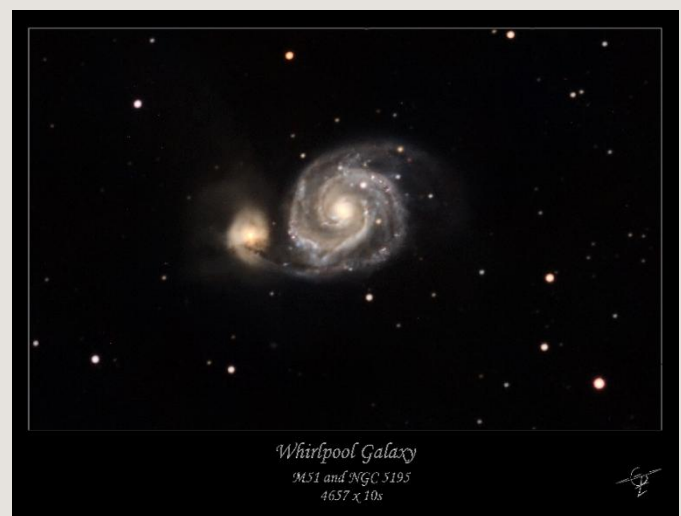
I have a Samsung Galaxy s23 Ultra, and I love it. It's a few years old but I got it because, in my opinion, Samsung has a better camera than Apple. I saw the commercials, advertising its crazy optical zoom, where you can actually "take a picture of the Moon." I quickly learned that's not a good thing, as I pinched in and snapped the photo of the Moon, noticing something weird. The image shifted, altered, then suddenly it was...different. A quick Google search revealed that the phone took my image and enhanced it with AI images. It was not a photo of what the Moon should have been, not what it was through that instrument. If I want a photo of the Moon, I want it to be my own.

Here's a recent example, the one in fact that blew up the Seestar page.

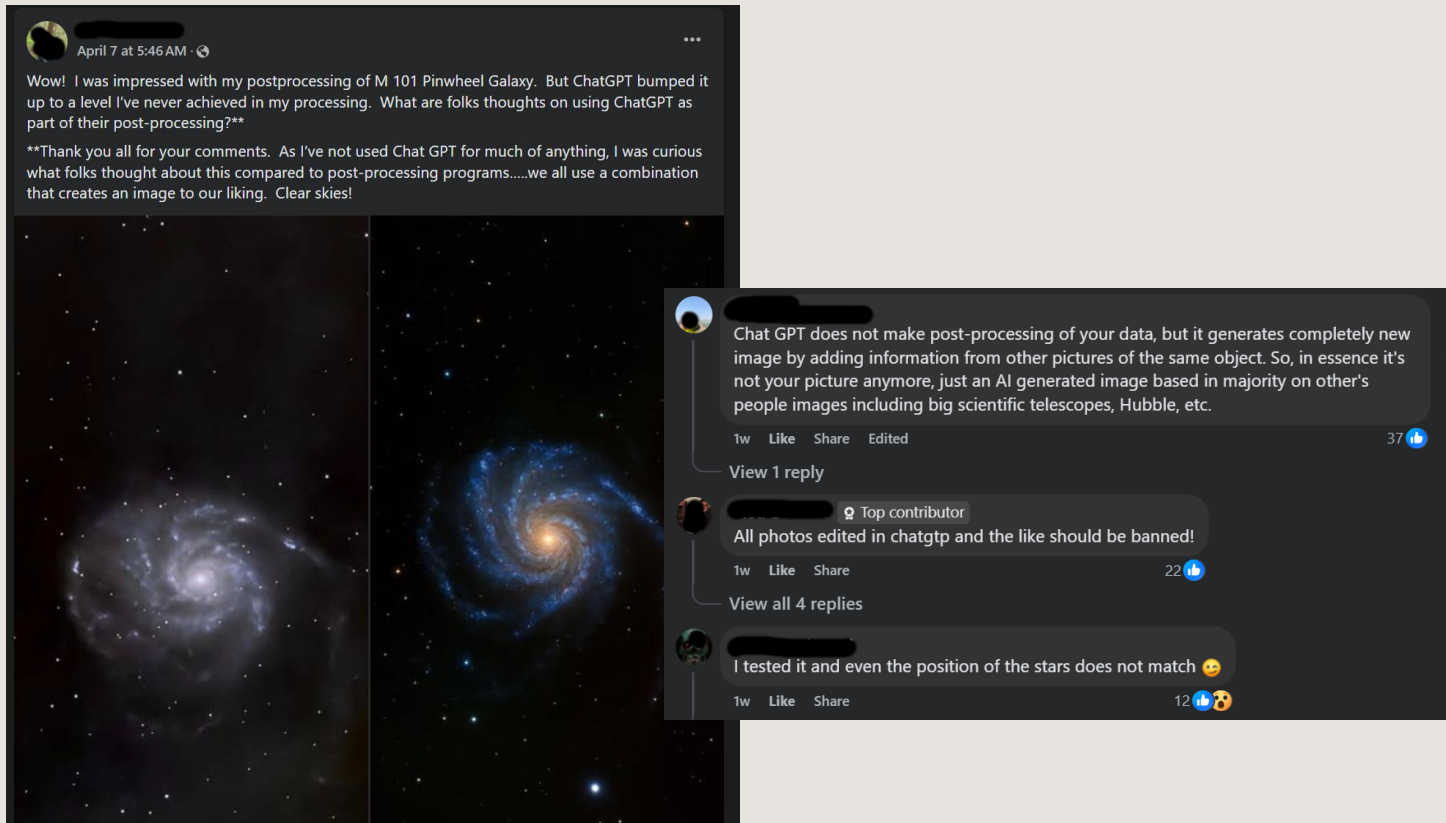


I asked a question, if it was AI enhanced, but before that person even had a chance to answer, in came a stream of people calling the poster out for AI enhancement and requesting the admin state their AI policy clearly and to prohibit the posting of images such as these. The reason I knew it was fake was because here's my M51:

I am certainly no expert at processing deep sky objects and am very much still on the lower end of the learning curve, but our two telescopes are the same. However, the images are not even remotely close. What bothered me more, because it could honestly have been someone who did not know the minefield they were stepping into, was that if you go back and read their post, they do not state they used AI. In fact, they write it as if this was just the quality of their image that they did themselves.



Here's another example that I pulled off the page and some of the more tame responses:



A poster on this thread made a great comment, that if you were new to amateur astronomy and the Seestar was your first telescope, this sets up an unrealistic expectation of what you can expect to image. I've been around long enough in this hobby to appreciate how amazing these little smartscopes are to use, and I think you'll agree that using AI, such as ChatGPT, is pretty but in no way can someone claim this image as their own. At that point, just download it from Google.

SPAC Image Gallery



Here are some excellent astrophotography photos from our fellow SPAC membership, shot from various locations and divided into categories similar to our annual star party imaging competition. If you would like to share your work, I encourage you to [email Peter](#) your image or share them on our SPAC Facebook page.



PETER MCLEAN

Deep Space (Galaxies, Star Clusters, Comets)



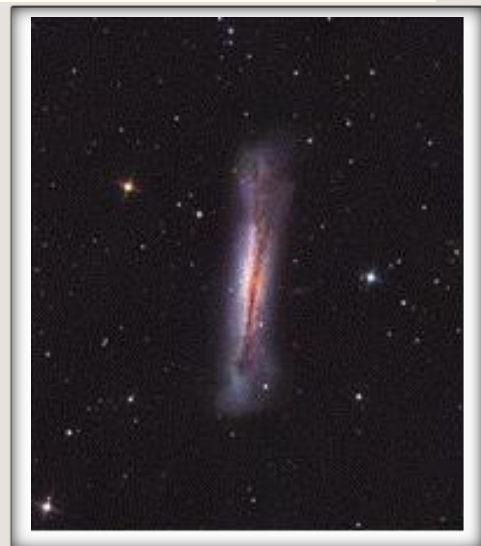
*Messier 65
by Peter McLean
from Willow Oak, FL*



*Messier 63 Sunflower Galaxy
by Jamie Kenas
from Chiefland Astro Ranch*



*NGC4736 Croc's Eye Galaxy
by Yervant Parnagian
from Hudson, FL*



*NGC3628 Hamburger Galaxy
by Steve Miller
from Lakeland, FL*

Nebula

*NGC2244 Rosette Nebula
by Bob Stelmock
from Withlacoochee River Park, FL*



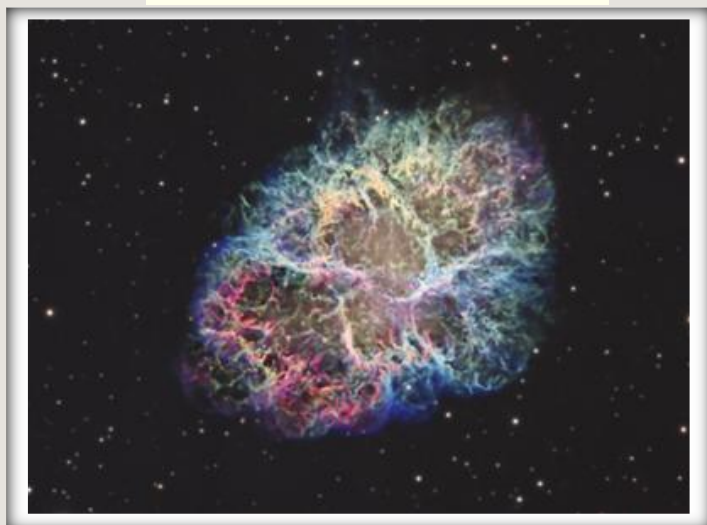
*Messier 42 Orion Nebula
by Yervant Parnagian
from Hudson, FL*



*NGC2467 Skull & Crossbones Nebula
by Peter McLean
from Willow Oak, FL*



*Messier 1 Crab Nebula
by Jamie Kenas
from Chiefland Astro Ranch, FL*



Planetary-Lunar-Solar



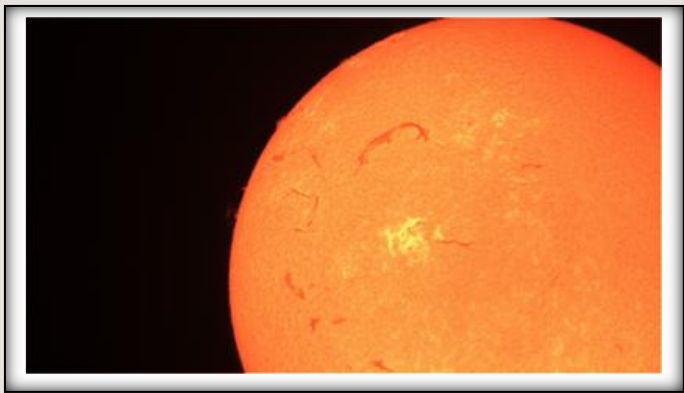
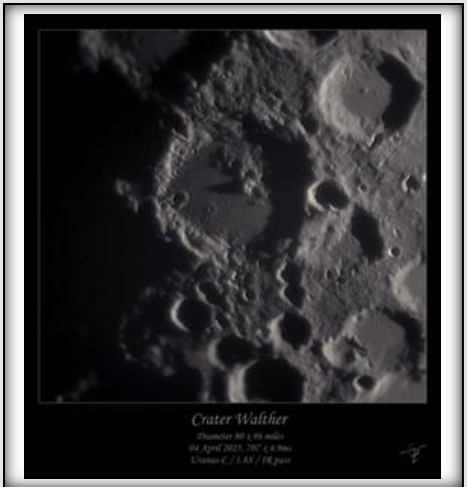
Venus
by Guy Earle
from Riverview, FL



Mars
by Greg Shanos
from Sarasota, FL



Lunar Landscape
by Guy Earle
<-Left: Hadley Rille; Apollo 15 Landing Site
->Right: Crater Walther



Magnificent Solar Portrait
by Bruce Sobut

Smart Telescope



*<-Whale and Hockey Stick Galaxy's
by Guy Earle*



*Messier 3 ->
by Mike Partain*



*Needle Galaxy
by Joe Canzoneri
from Zephyrhills, FL*



*Messier 51 Whirlpool Galaxy
by Ron Jones
from Tampa, FL*



*Messier 16 Eagle Nebula
by Ron Jones
from Tampa, FL*

The Pasco Astronomy Club

By Jack Brockhurst

Coordinator Starkey Stargazing events

I asked my good friend and fellow SPAC member, Jack Brockhurst, to share information on the Pasco Astronomy Club, with which he is actively involved.



*JACK
BROCKHURST*

The Pasco Astronomy club is stargazing events at Starkey Wilderness Park in Pasco County.

It's not a club per say, there is no membership or clubhouse, we are Astronomers who have a passion to share the night sky with the average individuals who would like to see the night sky. We meet at the park with our telescopes and share our knowledge to the public. There is no fee, we tell them if you have a telescope, bring it to our event, we can show them how to setup and view their scopes. At our event we may have 12 to 15 telescopes for public

viewing.

At this time, we meet 4 times a year, our next event will be in November. We used to have the event every month, but due the shortage of Park staff, we are now at 4 times a year.

If we have volunteers to help with parking, we could have a monthly event.

Outreach Season Recap

The 2025 outreach season ended with a fizzle.

We were scheduled to do a star party April 4 at Inspired Acres, a non-profit organization in Clearwater that provides education, healing, and empowerment for a variety of people. According to their web page, they use horses, among other methods, to help people who have "...physical, emotional, and mental challenges- including individuals with disabilities, veterans, seniors, people in recovery..."

It was gonna be fun -- 200 people, plus horses. I was looking forward



*STEVE GABER
DIR.@LARGE*

to it. Didn't work out that way.

Well, for starters, only two SPAC members, Tom Spano and Jim Hunter, agreed to show up with their telescopes. That's not enough to handle a crowd of 200 people. (I was disappointed that I couldn't go due to a recent medical procedure.)

But in the end, it didn't matter anyway, because apparently Inspired Acres were not sufficiently inspired and they cancelled earlier that day. Big fizzle.

We get requests from schools to do star parties, usually beginning around November, when it's not so hot and the mosquitoes have not yet geared up for the bloodletting. We did one Reading Under the Stars event at Curtis Elementary School.

However, this year, not much happened until late January, when we had a star party at Northwest Elementary School in St. Petersburg. Lots of kids, but how many actual stars they saw is debatable, since the event started at 4:30 and ended at 7:30. That is a problem during the school year. On school nights we set up just before sunset, the event begins and it's usually not dark enough to see much before it's over and the kids go home to bed. Sometimes the moon is available and maybe Venus or Jupiter. That is, if the clouds don't show up.

The last night in January Peter McLean arranged to have a Starry Starry Night at Bok Tower in Lake Wales.

February was a fairly slow month, with bad weather intervening, except for the St. Petersburg Science Festival on February 8, where hundreds of kids, their parents and siblings came to look at sunspots and ask questions about telescopes and astronomy. That same evening, SPAC did an outreach for Trail Life Troop FL-1901 in Lithia. Jim Hunter also presided over an outreach at St. Leo University.

In March. We had a successful outreach event at Tarpon Springs Elementary School and a really great outing at Brooker Creek Preserve, with at least 200 visitors and seven SPAC members who brought their scopes.

There were other SPAC outreach events this season, including regular Friday demonstrations Sidewalk Astronomy in Gulfport by the amazing Greg and Liz Simpson. Between September 2024 and April 2025, they made fourteen appearances in Gulfport.

Then there were Saturday Astronomy Nights at Boyd Hill Nature Preserve, with one in November, two in December, one in January and two in February. None were scheduled in March or April because that's when the mosquitoes took over.

In addition to the above, Jim Hunter arranged for SPAC to do public astronomy at Cracker Country in October. In November, Guy Earle showed cats and visitors the stars at the

Cats In Space charity event in Riverview.

Now you know why the St. Petersburg Astronomy Club is known as the largest and most active astronomy club in Southwest Florida. We're always looking for more members to participate in our outreach activities. If you haven't done any, please think about showing up at one of our scheduled events, with or without a telescope. If you are beginning in astronomy, you could get some help with your new telescope or learn more about the wonders of the night sky from our experienced and knowledgeable members. You should consider it.

Steve Gaber

For Sale

For Sale: Celestron C11 Telescope and Celestron CEM-DX Mount with Tripod Plus Accessories

Celestron C11 Telescope

This high-quality Celestron C11 telescope offers exceptional clarity and precision for both amateur and professional astronomers. With its advanced optics and sturdy construction, it is perfect for deep sky observation and astrophotography.

Celestron CEM-DX Mount with Tripod

Just back from overhaul at Celestron ... works like it's new.

Included Accessories

- Dew shield to prevent condensation on the optics
- Carrying case for the scope
- Bahtinov masks for needle sharp focusing
- Dew zapper
- Extra Losmandy dovetail for attaching accessories
- Fiberglass tactical case for the mount (Ugly but bullet proof)

Condition

Everything in perfect working order. Some minor cosmetic details. Can't see them in the dark.

Price

Asking Price: \$1,500

Contact Information

Call Kelly @ 813-760-1720 or email to kander13@verizon.net



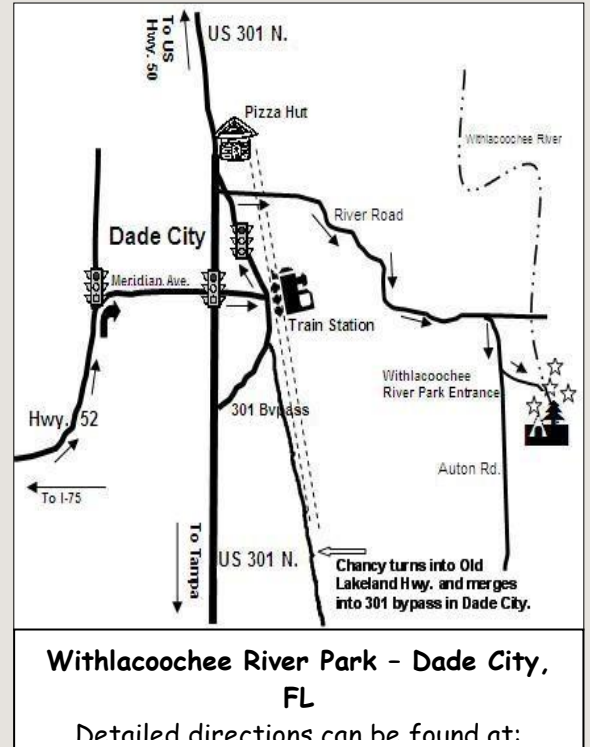
SPAC Business Meeting 🏠

Our next business meeting is **Wed., May 14th, 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	Mike Partain
Vice Pres.	Guy Earle
Secretary	Peter McLean
Treasurer	Christian Rubach
Dir.-at-Large	Allen Maroney
Dir.-at-Large	Steven Gaber
Dir.-at-Large	Jack Fritz
SPACE Editor	Guy Earle
Public Relations	John O'Neill
Membership Chair	Peter McLean
Mirror Lab Chair	Paul McNabb
Outreach Chair	Steven Gaber
Star Party Chair	Mike Partain
Librarian	Ralph Craig
Club Webmaster	Allen Maroney
Dark Sky Chair	OPEN

Click on the name to send email



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.



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. There is a small fee to the park for using electricity, reduced even further for club members, which you can pay on our club website [HERE](#).



St. Petersburg Astronomy Club

Recognition of Patrons & Benefactors

Walter Brinkman	Benefactor	Steve & Cindy Fredlund	Patron
Dave & Deborah Catalano	Benefactor	Steve Gaber & Karen Sell	Patron
Jack & Roni Fritz	Benefactor	Richard & Mary Garner	Patron
Michael Haworth & Melanie Otte	Benefactor	Timothy & Mary Ann Harris	Patron
Matt Hughes & Manuel Ordonez	Benefactor	Charlie & Linda Hoffman	Patron
Valerie Hyman	Benefactor	Eric Houghton	Patron
Craig & Roberta Jameson	Benefactor	Mark Kepka	Patron
Jamie Kenas	Benefactor	Matt Labadie & Jennifer Willman	Patron
David Knowlton	Benefactor	Willy & Beth Lebihan	Patron
Laura & Roy Lanier	Benefactor	Dave & Mary MacKenzie	Patron
Tod Markin	Benefactor	Steve & Jeri Maiaroto	Patron
Kelly McGrew	Benefactor	Joseph Mandara	Patron
Kevin & Karen Mulford	Benefactor	Allen Maroney & Tracee Elliott	Patron
David & Kathryn Musser	Benefactor	Ralph & Molly Merritt	Patron
Rath, Damon & Jean Futch	Benefactor	Steven Miller & Lisa Alessi	Patron
Mike Rozycki	Benefactor	Herb Monroe & Martha Stewart	Patron
Christian & Wendy Rubach	Benefactor	Stephen Oros	Patron
Doug and Teri Sliman	Benefactor	Yervant & Jo-Ann Parnagian	Patron
Garrison & Ruth Smith	Benefactor	Michael & Carli Partain	Patron
Jill & Robin Sumner	Benefactor	Brad & Lisa Perryman	Patron
Andrew & Bonnie Watts	Benefactor	Alan Polansky	Patron
Johnny White	Benefactor	Gregory Satchwell	Patron

Bill & Norma Amthor	Patron	Tom Spano	Patron
Steven Balke	Patron	Anthony Staiano	Patron
Michael Brennan	Patron	Jonathan Stewart	Patron
Michael Callahan	Patron	Tom & Michelle Sweet	Patron
Ralph & Christine Craig	Patron	Jose & Mary Torres	Patron
Glynis Dilaire	Patron	Alexie Velez & Yanira	
Peter & Jaclynn Dimmit	Patron	Hernandez-Velez	Patron
Guy & Kelly Earle	Patron	Skip & Kim Walker	Patron
Joseph & Pamela Faubion	Patron	Shawn Wilson	Patron
Darla & Peter Flynn	Patron	Elizabeth Wood	Patron
		Pete Zapadka & Amy Johns	Patron



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 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 view and update your membership profile, provide payment, and print your membership card.

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.