SPACE

St. Petersburg Astronomy Club Examiner

May 2025 Editor - Guy Earle

The St. Petersburg Astronomy Club has been the center of family astronomy in the Tampa Bay Area since 1927. Our 323 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.

Inside this Issue:

Messier 88 Spiral Galaxy in HaLRGB captured with a Meade SN10 and the ZWO ASI533M from the Willow Oak, FL backyard observatory, by Peter McLean

June Preview

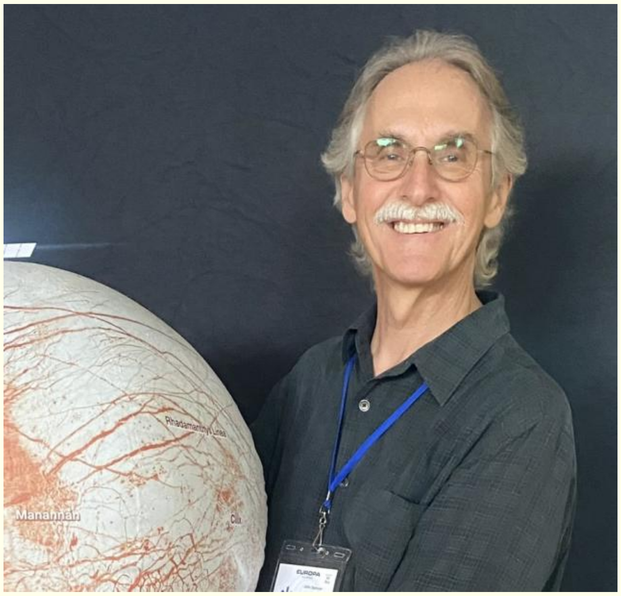
For June, SPAC member Bob Stelmock will be showing members on how to image using the Seestar s50 in a live-imaging and processing session.

This month we will be joined via Zoom by Dr. John Spencer, who will be talking about the Europa Clipper Mission that is currently on its way to Jupiter.

May General Meeting

This month's general meeting will take place on **Thursday, May 22nd 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, **Dr. John Spencer, Deputy Principal Investigator from the Southwest Research Institute** will be presenting on the **Europa Clipper Mission**.

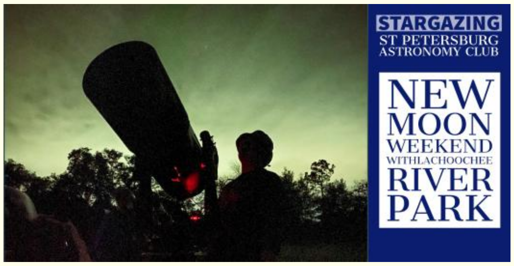


Join Zoom Meeting **HERE**

Meeting ID: 834 8435 3027

Passcode: 092807

The club's **New Moon observing weekend** is on May 23rd and 24th at Withlacoochee River Park east of Dade City.



New SPAC Members

We would like to welcome Aleksandar Trajkovic, Richard White, Lucy Staines, Keith & Michelle Reyes, and Gordon & Krystine Hundley 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

Mike Partain

Greetings, I hope this message finds everybody well. This month is typically the end of our observing season as we transitioned into the mosquito months of summer. Our last hurrah will be the spring picnic of the new moon weekend on May 23 24th and 25th. We will have a cookout at 2 o'clock followed by a swap meet for astronomy equipment at 4PM. So, bring your appetite and your astronomy things to sell, who knows you may find something new for yourself.

Our general meeting will be Thursday, May 22 and we have a special guest, Dr john Spencer, who will be talking about NASA's Europa Clipper mission. Please, be sure to attend either in-person at the St. Petersburg College or join us online if you're unable to be get to the college. It's important that we support speakers like Dr. Spencer so we can continue to attract quality speakers in the future. The meaning begins at 7:30PM and Dr. Spencer should start speaking at about 8 o'clock. The meeting ends by 9 PM.

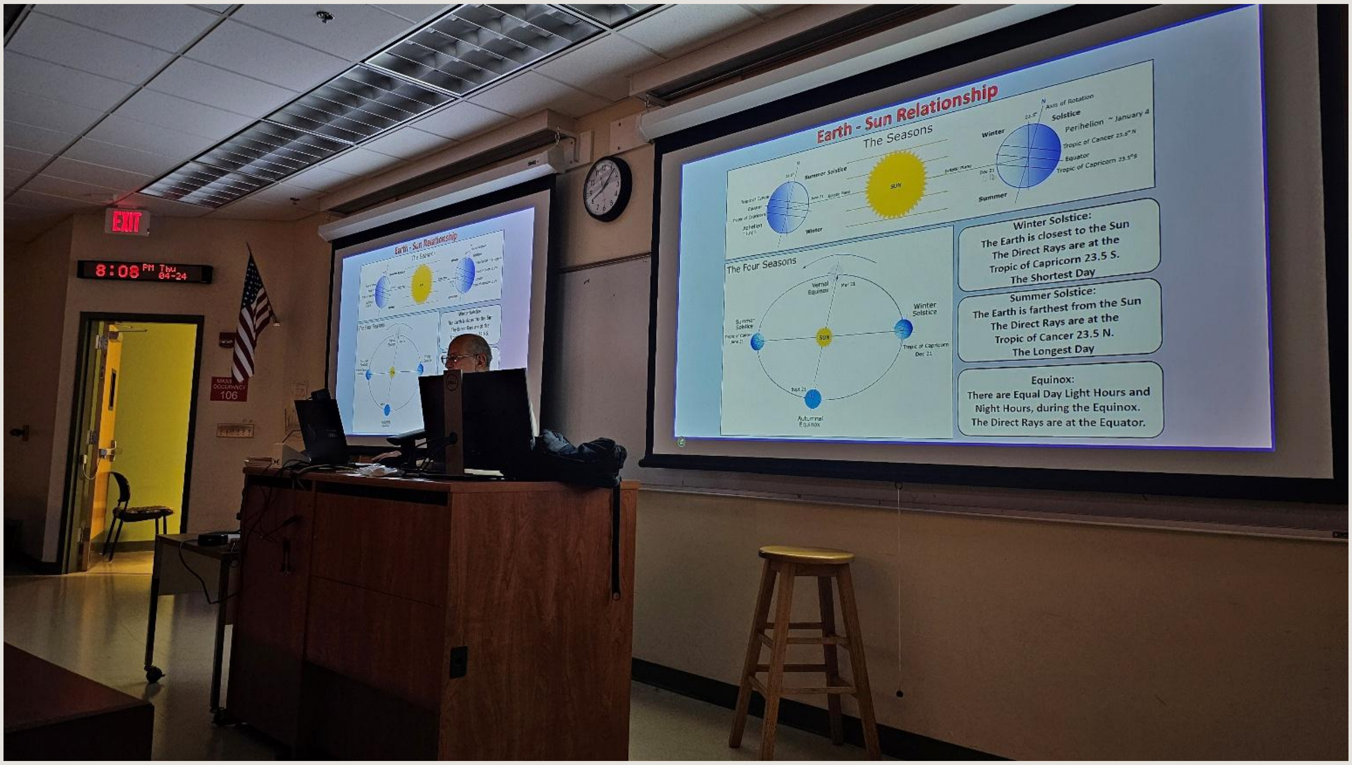
We will continue to have our general meetings over the summer, but our observing generally dies down because of both the heat and the bugs so common of Florida. Carli and I will be attending the Cherry Springs star party in Pennsylvania next month in June. I hope everyone remains safe and clear skies.

Clear skies,

Mike

April General Meeting Recap

Thank you to SPAC member Carmen Manfredi for his presentation on tropical weather patterns. We had members both online and in-person at SPC. Apparently, we had a calendar issue, where it stated the wrong room. For clarification, we are typically in room 236, unless otherwise stated. But thank you again to Carmen, as there were many interesting points that prompted questions and discussions.



Also, Mike and I have been talking about that 30-minute window at the start of the meeting, typically reserved for club updates and other mentions. That will continue, but I want to include a short 5-10 minute “what’s up” in the night sky for that month. We’ve done this on and off in the past, and I’d like each meeting to include that before any main presentation. This coming meeting, I will also have a 4-minute video summary from NASA of the Europa Clipper mission, to set the stage for Dr. John Spencer.

Join us for our SPAC spring picnic and swap meet!

Saturday, May 24th
Withlacoochee River Park

Picnic @ 2PM
Swap Meet @ 4PM

SPAC New Moon Weekend

Field Report

April 25th-26th, 2025

GUY EARLE

The April New Moon weekend had some really good weather. I wasn't there on Friday, but I know we had attendees starting Friday night. Our Intrepid Field Reporter, Kelly Anderson, is on the move the next few months, so I'll be humbly standing in his place until July or August. On Saturday, I only stayed until about 2:30 then drove home, and by that time it was only Tim Harris and I who were still up on the field. As we walked by a Seestar, it slew to another object, so I don't know if that was someone actively imaging or it was pre-programmed. I was surprised because it was still clear, although there was a bit of dew starting to form on the equipment.

An hour or so earlier, the Mirror Lab guys (Allen Maroney, Ron Jones, and Ralph Craig), headed home. They had set up on the far north end of the field in order to image the spectacular globular cluster, Omega Centauri. The photo above is from their location. It doesn't come very far above the southern horizon, so you want to keep the trees as low as possible. That can be done by going out onto the north field, where we are trying to get the new clubhouse placed. It's now pretty common to see Seestar and Dwarf telescopes on the field these days, by both new and seasoned astronomers. There's a convenience factor involved with the smart scopes, as you can drop the telescope and be imaging within ten minutes, which is especially a good idea if you're planning on heading out at some point during the night.

I'll be there for the spring picnic, hopefully for both Friday and Saturday night if the weather cooperates. I'll be setting up my 16" Dobsonian as well as my smart scopes, a little ways out onto the north field. If you're looking for a place to drop your scope, come join me and we'll blow out some globular clusters in the binoviewer.

Top: *Tim is chilling near his 20" Dobsonian, waiting for nightfall. You can see the clear skies!*
Right: *Left to right, Ron Jones, myself, and Tim Harris*
Bottom: *facing north, a dark shot with my Seestar and Dwarf scopes, lit from underneath while I am in my chair, watching the screens*.

Left: *Kelly Anderson striking a pose as he waves in front of his scope.*

Bottom: Another Seestar scope behind the line of RV's, polar aligned and ready to go for the night.

June Astronomical Events

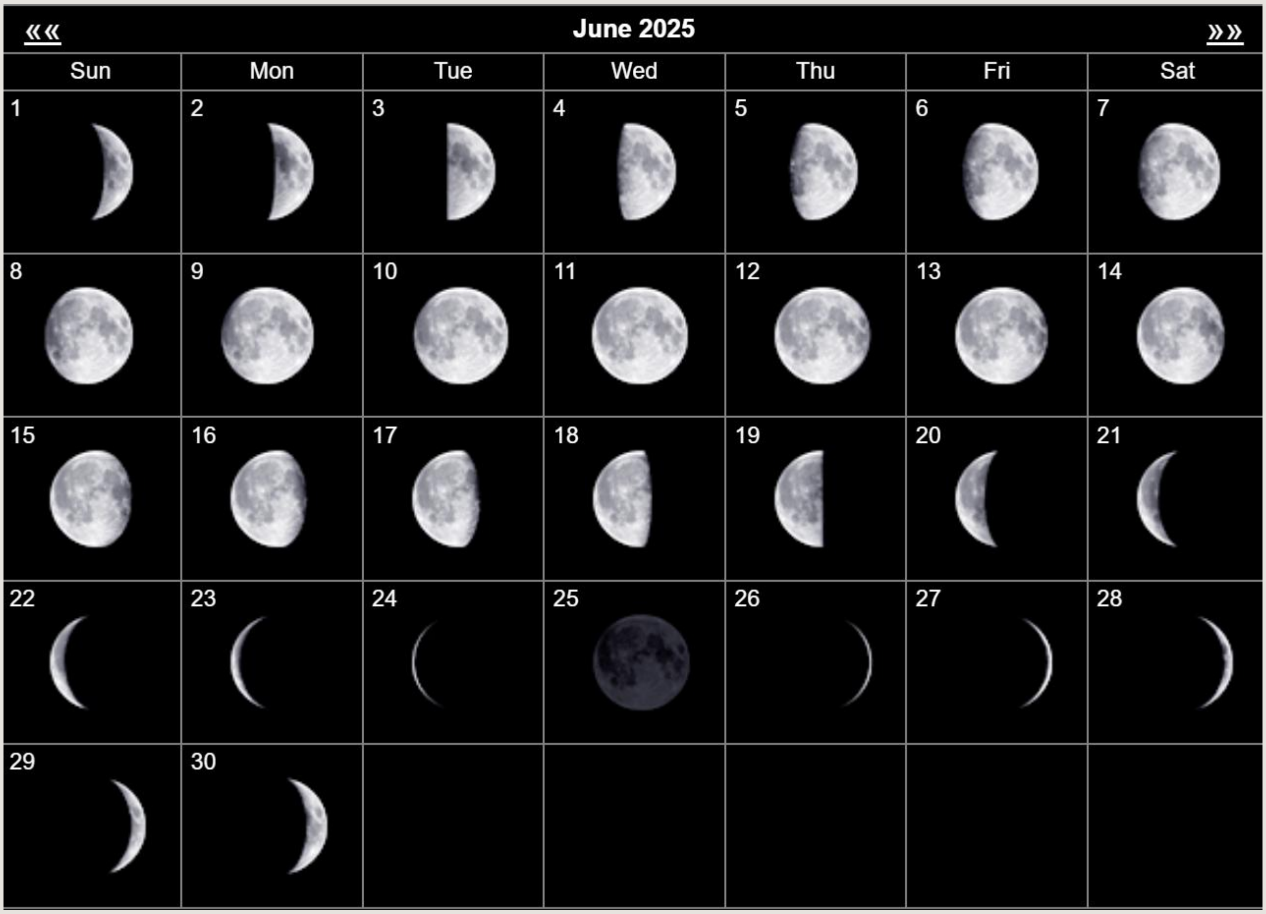
June 1, Mars will be 1.4° south of the Moon
June 1, Regulus will be 1.8° south of the Moon

First Quarter June 2
June 3, the Moon will cross the celestial equator headed southward at the Descending Node
June 6, Spica will be 0.5° north of the Moon
June 7, the Moon will be at Apogee: 405,553 km from Earth
June 10, Antares will be .3° north of the Moon

Full Moon, June 11
June 16, Mars will be .7° north of Regulus
June 18, the Moon will cross the celestial equator going northward at the Ascending Node

Third Quarter June 18
June 18, Saturn will be 3.4° south of the Moon
June 20 is the Summer Solstice
June 21, Mercury will be 4.8° south of Pollux
June 22, the Pleiades will be .6° south of the Moon
June 22, the Moon will be at Perigee: 363,178 km from Earth

New Moon June 25
June 26, Pollux will be 2.5° north of the Moon
June 27, Mercury will be 2.9° south of the Moon
June 29, Regulus will be 1.5° south of the Moon
June 29, Mars will be .2° south of the Moon with an occultation visible in Ecuador, Peru and to dolphins
June 30, the Moon will cross the celestial equator headed southward at the Descending Node

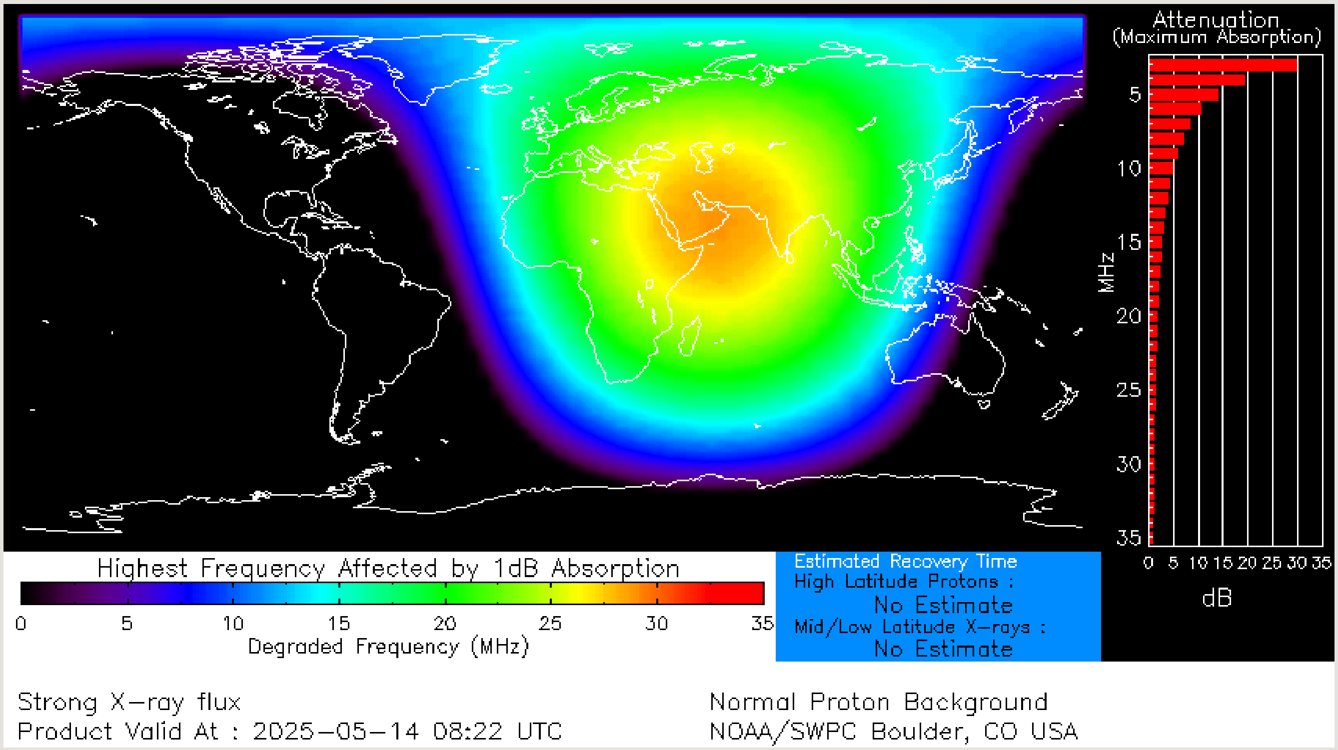


Space Exploration News

Steve Robbins

We're all wondering what in the (insert favorite profanity here, or not. Your choice!) is wrong with SpaceX's Starship version 2? Version 1 was spectacularly, sometimes too much so, successful. Sure, holes were burned in the control surfaces and the hinges got crispy, but it took off, achieved orbital velocity, reentered successfully and soft landed on the water. And after much fixing, the second flight of version 2 exploded even earlier in the flight than the first flight. This is worthy of a very deep dive, taking up much more space than I can here. But I found an astounding source of information, Zack Golden of the CSI Starbase YouTube channel. Watch this to gain a new definition of the term "deep dive." I guarantee you'll understand the issue in amazing depth and understand why the problem is so difficult to solve.

While you were sleeping, the Sun [experienced a violent eruption] at 04:25 EDT on Tuesday, May 4. That's when the Sun unleashed an incredibly powerful X-class solar flare from a new sunspot region AR4087. This one caused level R3 radio blackouts all over Europe, Asia and the Middle East. As an X2.7 event, this eruption was on the weaker end of the scale for the rare X class solar eruptions.



Mars Insight probe is dead. But its data lives on, leading scientists, even in the past month, to new discoveries about our closest neighbor planet. Well it isn't the closest most of the time but Mars is the closest that we can actually explore. Data from an energetic earthquake (S1222a) and two major asteroid strikes(S1000a and S1094b), and techniques revealed from Earth seismic oilfield research, [reveal a region 3 to 5 miles deep] where sound waves slow down. On Earth, such layers indicate modified basaltic rock, porous and filled with liquid water. Mars Insight was stationary at Elysium Planitia and this finding could be limted in scope to only that region of Mars. More investigation is necessary.

In their ever desperate search for continuing funding, a group of University of Cambridge astronomers, earlier this year, announced "the strongest evidence yet" of extraterrestrial life. This was contested even by Cambridge astrophysicist, [Dr Becky Smethurst]. A recent article [published by Space.com], sheds additional details on why it might not be time to declare the search for life outside Earth's ecosystem as accomplished. Especially concerning was the lack of compounds normally accompanying dimethyl sulfide, like ethane, the close distance of planet K2-18b to its star, making liquid water possibility very doubtful, and the use of a biased model that increased the likelihood of dimethyl sulfide detection where it doesn't exist.

My changing attitude to the springtime sky

GUY EARLE

I have to say, my least favorite time of the year for this hobby has always been springtime. Notice, I said “was.” It’s always great to look at the bright nebulae and clusters of the winter sky, but then a few hours later here came the spring sky, loaded with galaxies. Yes, you should read a bit of derision into that last sentence.

I’ve had my 16” Dobsonian since 2006, and it has been a real performer on globular clusters, my all-time favorite objects. This is especially true when using my old Denkmeier binoviewer in my 16” with the equatorial platform. Seeing a dense globular cluster down to the core is an awesome sight. The summertime sky is absolutely loaded with them, with one or two making their appearance in the late spring. But overall, the springtime sky has very few nebulae as well and is overwhelming in the number of galaxies. However, I found that unless you have really, *really* transparent skies, galaxies just look “soft” in the eyepiece, even with my 16” scope. Like M33, it’s a glorious face-on spiral galaxy, but if the skies aren’t transparent then it’s a bit underwhelming. Granted, when you do have those moments of truly clear skies, galaxies can be mind-boggling, but those nights happen only once or twice a year at most.

My opinion started to change when I got my Seestar s50 back in February of 2024; my Dwarf 2 scope wasn’t really being used at the time because I hadn’t updated the software and didn’t know how much things had changed with the telescope. Once I realized that about a month later, those improvements were so dramatic it led me to get the Dwarf 3, and I think if you’ve been reading the newsletter the past year, you know how that went.

At the February 2024 OBS, I was snapping off 20-minute shots of galaxies and perfectly happy with what I got. That’s how it starts, you know. In the beginning, you’re happy with the onboard image that your smart scope gives you, typically after spending 30 minutes or less of imaging a target. Then you see other, better images with the same scope on Facebook and you decide to go for it, spending 2 hours on one object rather than spending the whole night going from object to object like a Chihuahua on Ritalin. That image looks good, but you then decide to download a free stacking software, such as Siril, and just get confused. You almost give up but then find a good tutorial on Youtube. Suddenly, you think, “is two hours enough to spend on that target?” This is a slippery slope because you quickly find your imaging sessions changing.

This change in logic manifested itself last February as the Very Small Array, a group of SPAC and other astronomy club's members, who pooled our data from the same object on the same night when we were all at the Chiefland Astronomy Village. It was instantly addicting and rewarding. Instead of having 3-400 images (henceforth called "frames") to stack, I was running 4000 frames on Thor's Helmet. I had the data, just not the skill to process them right. I was getting a final image that I knew was not all it could have been. I was blowing out the cores of galaxies and pushing the blacks so hard I was killing the detail in the images. I decided to keep pushing, kept learning, watching Youtube, downloading a few Adobe Photoshop plugins, and trying to get better.

Here we are, all these months later, and I'm now spending an entire night on one object, maybe two if the first one gets too low in the west. I'm pulling a couple thousand images in one night, even imaging the same target over multiple nights. I keep learning. It's what has kept me in this hobby over decades—there's no limit to learning. The equipment we use and the universe itself are always being expanded, a constant state of change. I enjoy learning new things, having been an educator myself, and I think keeping your mind sharp is as important, or more so, than even going to the gym. What's a "gee-umm?"

But I digress, here's an image of M51, the Whirlpool Galaxy, in Ursa Major. The first image was my first attempt at a "large" amount of frames, about 640, collected back in September 2024. The image on the right is from just recently with 7,333 frames over multiple nights in the Seestar s50.

It may not look very different, and you may even think the one on the left it better because it is brighter, but I've learned to pull out more detail in my images, stars being tighter, and the color being more balanced. I know I'm preaching to the choir, but I find that once I finish editing an image, I have to walk away and come back later. I often find that I pushed the brightness too far, saturated an image too much, and I try to find a better balance. I'm still learning and know that I can pull even more out of the image, I just don't know how yet. That's the challenge and I like it.

But back to springtime as a whole, I used to not like the night sky at that time of year because it is almost entirely galaxies—not anymore. I enjoy them now in a way that I never did before, using my old Mark 1 eyeball, 16" scope, and binoviewer. I still have not crossed to those pro-imaging rigs that experts like Jamie Kenas use, and I'm not sure if I'll ever go that far. Planetary imaging is still my proverbial bread-and-butter, but I'm certainly enjoying this new part of the hobby. I think that can be said for many other seasoned amateur astronomers as well as new members.

One last thing, in an effort to plan my imaging sessions a bit better than simply checking Stellarium each night, I've made a list of Messier and other bright objects that are up about an hour after sunset, rising somewhere between 20 and 30 degrees.

Messier List

and other bright objects

one hour after sunset

+20-30 degrees

Early January:
- Orion; M42, M43, NGC 2174 (Monkey Head Nebula), M78 (Casper Nebula), NGC 2169 (Little Pleiades)
- Gemini; M35
- Lynx; NGC 2419 (Intergalactic Wanderer)
- Monoceros; NGC 2264 (Christmas Tree Cluster)

Mid-January:
- Lepus; M79
- Monoceros; Rosette Nebula

Late January:
- Ursa Major; M81 & M82
- Monoceros; M46 & M47
- Canis Major; M41, NGC 2359 (Thor's Helmet)

Early February:
- Hydra; M48
- Cancer; M67
- Leo; NGC 2903

I did this to better plan all-night imaging sessions, and am sharing it with you in the hope that you will find it helpful. You can download it HERE. Good hunting!

SPAC Image Gallery

PETER MCLEAN

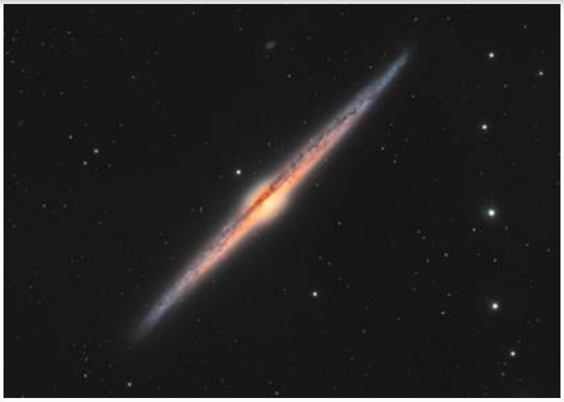
Here are some excellent astrophotography photos from our fellow SPAC membership, shot from various locations and divided into categories similar to our annual star party imaging competition. If you would like to share your work, I encourage you to email Peter your image or share them on our SPAC Facebook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

Deep Space (Galaxies, Star Clusters, Comets)

M51 Whirlpool Galaxy
by Yervant Panagian
from Hudson, FL

M81 Bode's Galaxy
by Allen Maroney
from Pinellas Park, FL

Messier 106
by Steve Miller
from Lakeland, FL



NGC4565 Needle Galaxy
by Jamie Kenas
from Chiefland Astro Ranch, FL

Nebula

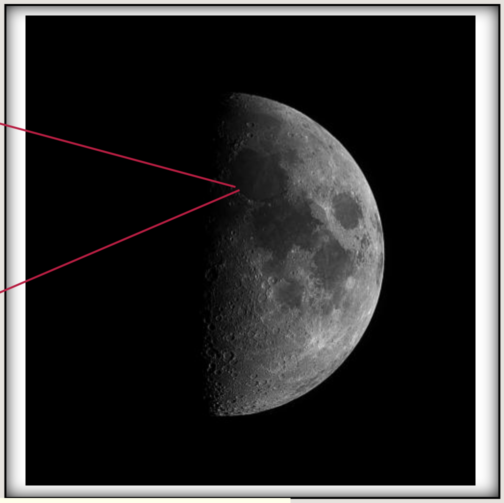
Galactic Nebula IC4605
by Johnny White
from Zephyrhills, FL

NGC6960 Witches Broom Nebula
by Allen Maroney
from Pinellas Park, FL

NGC2244 Rosette Nebula
by Steve Miller
from Lakeland, FL

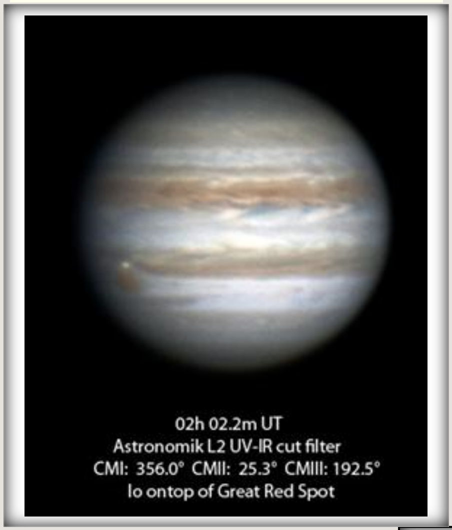
M20 Trifid Nebula
by Jamie Kenas
from Chiefland Astro Ranch, FL

Planetary-Lunar-Solar



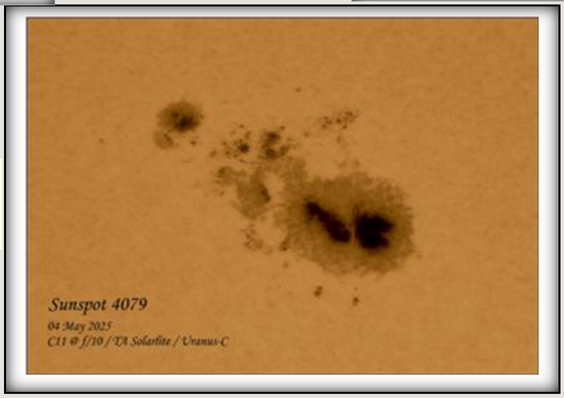
Incredible Lunar detail of Montes Apenninus Gap
by Guy Earle

Jovian moon Lo Transit
by Greg Shanos



Crescent Venus
by Bruce Sobut

Extraordinary Sunspot Activity
By Guy Earle



Smart Telescope

Messier 100 Galaxy
with the Seestar S50
by Richard Tobin

M16 Eagle Nebula
by Ron Jones

Wide View of Milky Way Cloud
with the Dwarf
by Matthew Peters

NGC5139 Omega Centauri
with the Dwarf III
by Guy Earle

M27 Dumbell Nebula
with the Seestar S50
by Guy Earle

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

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

For Sale: My gently-used ten-year-old **Celestron CPC 1100 Deluxe HD Schmidt-Cassegrain**. I bought the scope in 2015, and it's in terrific condition. It's seen a lot of sidewalk astronomy and other public outreach events over the years, too, to the delight of many people. I simply prefer using my lighter 8-inch Celestron SCT, so hope I can find a good home for the bigger scope. Included is a Kendrick Astro Systems flexible felt-lined dew shield, AstroZap dew heater controller w/1.25-in. eyepiece heater strap (fits 2-in. EPs, too) and 11-inch OTA heater strap, 9x50 finderscope and quick-release bracket, Telrad finder base, and Celestron AC power cord. Unfortunately, I don't have a diagonal to include.

Price: I'm asking $2500.00. Thanks!

Contact Information

-Greg Simpson, Pinellas Park, fzwicky@aol.com, (727) 896-9410


CELESTRON
FL2800mm
F/10
StarBright XLT COATING
EDGE HD OPTICS

SPAC Business Meeting

Our next business meeting is **Wed., June 11th, 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
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Treasurer	Christian Rubach
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Dir.-at-Large	Steven Gaber
Dir.-at-Large	Jack Fritz
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Mirror Lab Chair	Paul McNabb
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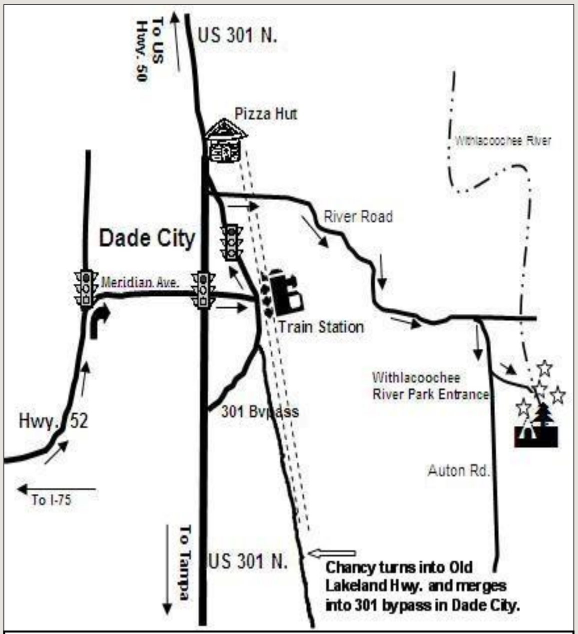
Star Party Chair	Mike Partain
Librarian	Ralph Craig
Club Webmaster	Allen Maroney
Dark Sky Chair	OPEN

Click on the name to send email



Withlacoochee River Park – Dade City, FL

Detailed directions can be found at:

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

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Dave & Deborah Catalano	Benefactor
Jack & Roni Fritz	Benefactor
Matt Hughes & Manuel Ordonez	Benefactor
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David Knowlton	Benefactor
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Mike Rozycki	Benefactor
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Garrison & Ruth Smith	Benefactor
Jim & Robin Sumner	Benefactor
Aleksander Trajkovic	Benefactor
Andrew & Bonnie Watts	Benefactor
Johnny White	Benefactor

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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.