

SP/CE

St. Petersburg Astronomy Club Examiner

October 2023

Editor – Guy Earle

The St. Petersburg Astronomy Club has been the center of family astronomy in the Tampa Bay Area since 1927. Our 397 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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Astronomy Image of the Month

The solar eclipse from Farmington, New Mexico by Mike Davis



November Preview

In next month's issue, we'll look at the first uses of the 20" Teeter telescope donated by SPAC member Howard Ritter and his family after his passing. Recently, we used this amazing telescope with a PVS-14 nightvision eyepiece for some truly remarkable results.



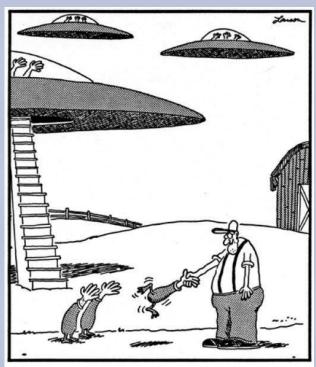
Annual SPAC Officer Elections

Here are the nominations for the 2024 SPAC officers. The election will be in person at the October monthly meeting.

Once you have signed in, you will see a green button, "Annual Elections."

President -- Mike Partain
Vice President -- Guy Earle
Secretary -- Shirley Vuille
Treasurer -- Jim Hunter
2023 Director--Steven Gaber
2022 Director -- Kyle Brinkman
2024 Director -- Jack Fritz

Night Sky Humor



Inadvertently, Roy dooms the entire earth to annihilation when, in an attempt to be friendly, he seizes their leader by the head and shakes vigorously.

October General Meeting

This month's general meeting will take place on Thursday, October 26th at <u>7:00 PM</u> (set up @ 6PM). The meeting will be *in person* at St. Petersburg College, Gibbs Campus, 6405 5th Avenue North, Philip Benjamin Social Arts Building, **Room 116**, (map on last page).

This month will be our **SPAC annual officer election and dinner**. Bring a dessert, food and drinks will be provided, and come join the fun! See the map on the last page for the location.



To attend virtually with **Zoom,**join from your computer, tablet or
smartphone by clicking here.
You can also dial in using your phone.
United States: +1 (301) 715-8592
Meeting ID: 993-399-3311

Passcode: 999123

The club's **New Moon observing weekend** will by November 10th-12th at Withlacoochee River Park east of Dade City.



New SPAC Members

We would like to welcome Jeanette Chavez, Marc & Jaci Loos, Jeffrey Martin, Joey Iglesias, David Lehocky, and Simon Tanner to our family of members.

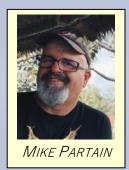
Examiner Staff

Editor
Space News
Field Reporter
Mirror Lab

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Update for OBS 2024 star party

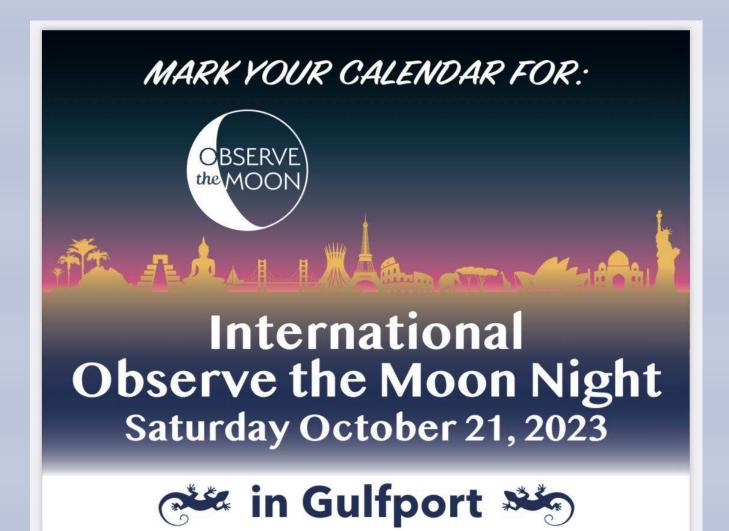
Hello everyone, this is an update for the OBS 2024 star party at Withlacoochee River Park. Earlier this month, I sent an email to all registrants with the link for the OBS 2024 T-shirts. *The shirts will be available until the end early registration in January*. We will have the shirts ready for everybody



to pick up at OBS when you check in. We've had a tremendous turn out so far with registrations, and I'm excited to announce that all of the power options on the field have been taken. There's still plenty of room in the back campground with 30-amp hook ups for RVs. As always, we have plenty a room for tent campers, including limited power for them.

I'm looking forward to our next OBS and hope for clear skies. If you should have any questions or concerns with OBS, please feel free to email me.





Bring your 'scope to this public outreach opportunity and set up at the corner of Beach Blvd. & 31st Avenue South.

Saturn will be up too!

Sunset 'til 10:00pm

FREE parking but get there early!

This coincides with "Third Saturday IndieFaire" street market; lots of foot traffic!



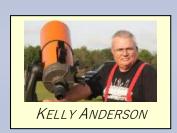
moon.nasa.gov/observe for more info, contact Greg Simpson at fzwicky@aol.com

SPAC New Moon Weekend

Withlacoochee River Park September 15-17, 2023

By Intrepid Field Reporter

September, for your Intrepid Field Reporter, was rather a disappointment. As I prepared for my sojourn north to Withlacoochee, I discovered the brake controller for my travel trailer fell apart, literally.



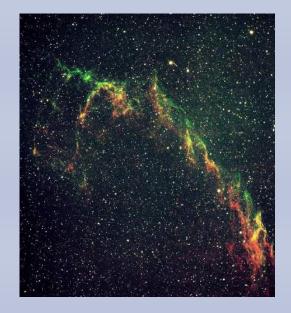
Sooooo, I was unable to attend. I kinda thought trying to control a 9,500-pound brakeless trailer

with a 4,500-pound truck would be the epitome of foolishness.

As it turned out the lousy weather forecast was altogether too accurate, and observing was marginal, at best for the weekend. A few of our stalwarts, Joe Canzoneri, Bob & Rita Mizell and others enjoyed the usual camaraderie, but astronomy was only possible through the occasional sucker hole.

However, I have it on good authority that the October Dark of the Moon weekend will be phenomenal, or nearly that. We expect the winds will blow out of the North, bringing clear skies and much lower temperatures.

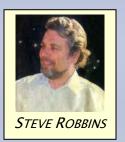




Schedule to appear are the Crescent Nebula (below) and the Witches Broom portion of the Veil Nebula (above), along with a cast of thousands (again, literally). Mark your calendars for October 13 – 15. Clear skies.

Space Exploration News

OSIRIS-REx samples of the asteroid Bennu have been spectacular. Almost 5% of the sample is comprised of carbon, the highest carbon concentration ever found in an extraterrestrial object. But the show is absolutely stolen by an abundance of water-beaing clay filaments throughout the sample. As of this writing, the main containment vessel hasn't even been opened because outside



it is a large "bonus sample" of material that overflowed the intended container. NASA will be preserving fully 70% of the sample to be put aside for future research by future generations of scientists. The rest will be researched worldwide by over 200 international scientists. In addition, as happened with Apollo lunar samples, scientists will be allowed to apply for access to conduct research not currently planned. Over 1000 requests per year are granted to study lunar materials. Like the lunar materials, Bennu samples are about 4.5 billion years old.

NASA's TRACERS mission, which, obviously, is an acronym for <u>Tandem Reconnection and Cusp Electrodynamics Reconnaissance Satellites</u>. This will be a pair of satellites to join NASA's heliophysics fleet of satellites studying space weather, the behavior of the solar wind and its effect on Earth. When solar wind particles, borne by the Sun's magnetic field, intersect Earth's magnetic field a lot of energy is transferred from the Sun to Earth. TRACERS will investigate the northern cusp, which generates the Aurora Borealis, flying in and out of the cusp to measure energy transfer between Earth and the Sun. Chief investigators on the TRACERS project are the University of Iowa, the Southwest Research Institute in San Antonio and Millennium Space Systems of El Segundu, California. SpaceX also launched another member of the heliophysics fleet, DSCVR, hanging out at the Sun-Earth L1 point, 1 million miles sunward on the Earth-Sun line.

Blue Origin has announced <u>it is pulling out</u> of the Orbital Reef Space Station agreement after receiving a \$130 million contract from NASA, of which it already received \$24 million. This leaves <u>its other partners</u>, Boeing, Redwire Space, Genesis Engineering Solutions, Arizona State University and Sierra Space with some weighty decisions to be made. Sierra Space has announced a series A private fundraiser has already raised \$1.4 billion dollars after Blue Origin's announcement. How does Blue Origin so fail its way to preferrential treatment by US governmental agencies? It looks like remaining contractors are capable.

Samuel G Peterson of the European Space Research and Technology Center (ESTEC) and Mark J McCaughrean of the European Space Agency (ESA) have published a scientific paper <u>Jupiter Mass</u>

Binary Objects in the Trapezium Cluster. Popular media have characterized their discovery as

planets in the Orion Nebula which are free from association with any stars. Peterson and McCaughrean are careful in characterizing them as JUMBOS, Jupiter mass binary objects. Most interestingly, as the mass of stars decrease their probability of occuring in a binary pair decreases. These JUMBOS comprise a much higher percentage of Jupiter mass objects detected in the nebula than stellar populations would suggest. Additionally, since motions have not been analyzed, **chance alignments must be accounted for**. Chance alignments of the ~700 Jupiter mass objects would suggest five pairs would be found. Peterson and McCaughrean found 50. Whatever these are, brown dwarves, failed stars formed by the same processes that form stars, or planets rejected from stellar formation, further study will revolutionize stellar and solar system evolution science.

Finally, the mission that looked doomed to never happen has launched. On October 13, SpaceX launched a Falcon Heavy booster carrying PSYCHE, the probe, to the nearly unique (only 5 M-class asteroid analogs of Psyche are known of over 1.3 million known asteroids) metal rich and never before seen main asteroid belt asteroid, 16-Psyche. Popularly characterized as a solid metal object, Psyche has an overall density half that of solid iron. Therefore it's safe to say it is not solid metal, although it must be a high percentage. No spacecraft has visited and ground based telescope observations are little more than points of light. Our best images and data so far has been radar imagery from Arecebo Observatory in 2016, shortly before the collapse of the world's largest radio telescope. Our working theory is that Psyche is the core remnant of a protoplanet that never got the chance to grow to full size before a collision with a similar object stripped its mantle and crust from the metal rich core. Whatever the facts turn out to be, in seven years, when the PSYCHE spacecraft enters orbit around Psyche the asteroid, learning will shift into high gear.

November Lunar Calendar

November 2, Jupiter at Opposition, 100% illuminated and as close as it gets this year November 3, Pollux will be 1.4° north of the Moon

Third Quarter November 5

November 5, the South Taurid Meteor Shower with a zhr of ~5. However the South Taurid and North Taurid showers overlap and rates are higher between Nov 6 and 12, when they overlap November 6, Regulus will be 4.2° south of the Moon

November 6, the Moon will be at Apogee: 404,569 km from Earth

November 9, Venus will be 1° south of the Moon with an occultation visible from Europe. The Moon is so close to Earth that its position can vary by 4 lunar diameters from different locations

November 11, Spica will be 2.4° south of the Moon

November 11, Moon will cross the celestial equator going southward at the Descending Node

November 12 is the peak of the North Taurid Meteor Shower with a ZHR of ~5. Remember, you see more meteors during the overlap period between North and South Taurids

New Moon November 13

November 13, Uranus is at opposition, best suited for observation from Earth

November 14, Antares will be .9° south of the Moon

November 16, Mercury will be 2.5° north of Antares

November 18 is the Leonid Meteor Shower with a ZHR of ~15. The best prediction available shows meteors brighter than normal this year.

First Quarter November 20

November 24, Saturn will be 2.7° north of the Moon

November 21, 12:00 UT is a possible passage through a 1767 meteor trail of Leonids

November 21, the Moon will be at Perigee: 369,824 km from Earth

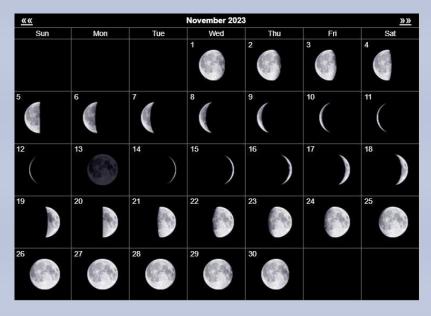
November 24, Moon will cross the celestial equator going northward at the Ascending Node

November 25, Jupiter will be 2.8° south of the Moon

November 26, the Pleiades will be 1.1° north of the Moon

Full Moon, November 27, the Full Beaver Moon

November 23, Venus will be 3.9° north of Spica November 30 Pollux will be 1. 6° north of the Moon



Observing Season Starts Up

As Floridians, the summer season is usually a break from any kind of dark site observing or imaging, unless you own an air-conditioned RV where one can sit comfortably while the telescope images your desired targets. For visual observers, a rare, cool June evening is the best shot at enjoying all the wonderful summertime objects around the Milky Way of Sagittarius and Scorpius. The



heat, the mosquitoes, the humidity, the mosquitoes, the dew, the mosquitoes...all combined together to make telescope observing in July and August so much fun. As for myself, I will do my planetary or lunar imaging from my driveway, waiting until the evenings cool down again.

If the weather is really good, some of us start trickling back out to Withlacoochee River Park in September's New Moon weekend, but the unofficial kick-off to the observing season is October (heralded by the arrival of the Port-o-Let on the field). This month we saw the partial solar eclipse from our location here in Florida. Some SPAC members, like Mike Davis' photo on the front page, were in a centerline location to see the famous "ring of fire." October is the month to start checking your gear, making sure if your batteries work, the dew strips are still working, maybe a mirror cleaning

As a side note, I recently saw Mike Partain using a very neat red light. I've been an advocate for using the tv LED strips in my eyepiece case and the camping lights sold in Walmart, but this is different. The hooga Red Book Light (QR to the right) is relatively inexpensive at \$14 and clips onto anything. It has a flexible neck and three settings of pure red LED light which can be selected by pressing on the lens hood. If that wasn't good enough, they are rechargeable.

and maintenance of your eyepieces, and a general organizing of gear.





As we roll into the holiday season, it's always a trick when the New Moon weekends coincide with Thanksgiving and Christmas. We all know that, "See, honey, I know the relatives are here but I need to go observing" does not fly when Mariah Carey has been resurrected on the radio and the smell of Glühwein is in the house. This year they're about two weeks prior to both holidays, so were good. I'm a big planetary guy, so I'll mention that as we go to 2024 Saturn gets low in the West after sunset while Jupiter and Uranus climb high. Back in 2019, when I became a planetary imager and truly began watching the planets, Jupiter and Saturn were very close to each other and reached opposition in June and July. Now, Saturn passed opposition only at the end of August and Jupiter not event until early November. Each year, the planets bump back a month or so in opposition.

After New Years, the two big events that SPAC will be focused on will be the April total solar eclipse, which some members, myself included, will be traveling to be in the centerline of totality. February will be our annual Orange Blossom Special star party, which has been held for over 30 years

and is a great event for everyone to get together. There's talk by meteorologists that this winter will see much colder temperatures due to El Ninio, which will be a nice change since OBS 2023 hit 90 degrees on the field—in February. After our big party, we'll star

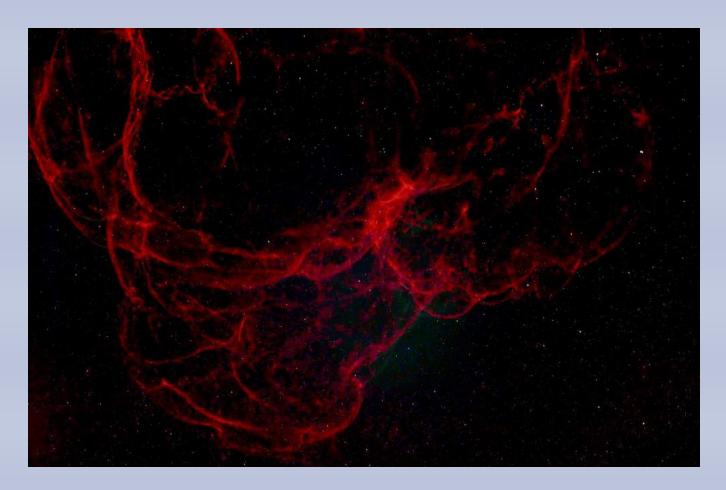


looking to wind down the last three or four months of the observing season. Personally, I plan on getting my mirrors on my 16" dob recoated in preparation for the next planetary season.

There's talk of some interesting comets and other events in the coming months. That's the thing I love about this hobby—it's always got something new. Whether you want to learn a new part of the hobby, such as imaging, or all the exploration done by professionals, this is not a hobby that is static.

SPAC Image Gallery

Here are some excellent astrophotography highlights from our fellow SPAC members. Anyone who would like to share his or her work, I encourage you to <a href="mailto:e



Above: **SH2-240** captured date Oct 18 2023, RASA 8 inch telescope 120 sec X 28 integration time, ASI2600MC cameria. Stacked and processed in Pixinsight **by Johnny White**



Above: 2023 planetary collage a series of images throughout the year of each planet, closest to opposition, with either 16" f/4.5 on eq platform, an 8" f/6 Meade reflector, or 1965 RV-6 on CGEM, all w/ASI290MC by Johnny White

Below: LDN 1295 "The Dead Frog Nebula," Dates: 2023-10-18, OTA: William Optics GT-81 WIFD, Mount: CEM 70, Camera: ZWO ASI 2600MM, Exposures: L: 180s x42, RGB: 180s x18, Filters: Anlita 2" LRGB by Jamie Kenas



SPAC Business Meeting



Our next business meeting is **Wed.**, **Nov.** 8th, **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	Brad Perryman	727 420-1957
Vice Pres.	Paul Krahmer	727 535-5827
Secretary	Shirley Vuille	727 864-2624
Treasurer	Jim Hunter	813 507-8415
Dirat-Large	Kyle Brinkman	727 455-6931
Dirat-Large	Steven Gaber	727 215-0464
Dirat-Large	Jack Fritz	727 692-9831
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	850 339-0828
Librarian	Ralph Craig	727 384-2086
Club Webmaster	Jack Fritz	813 508-5680
Dark Sky Chair Lee	ann Muszynski	813-601-0986

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

Dade City

Pizza Hut

Withlacoochee River Park Entrance

Journal of Lakeland Hwy. and merges into 301 bypass in Dade City.

Withlacoochee River Park – Dade City, FL

/ithlacoochee River Park - Dade City, FL Detailed directions can be found at: www.StPeteAstronomyClub.org

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 <u>Friends-Of-The-Park Pass</u> 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 <u>Club Calendar</u> for details and scheduled dates.



St. Petersburg Astronomy Club

Recognition of Patrons & Benefactors

Lakeisha & Stephen Black	Benefactor
David Brewer	Benefactor
Walter Brinkman	Benefactor
Dave & Deborah Catalano	Benefactor
Stephanie Colon	
& Ariel Grajales	Benefactor
Kimberly Dean	Benefactor
& Caroline Sherman	
Jack & Roni Fritz	Benefactor
Michael Haworth & Melanie Otte	Benefactor
Valerie Hyman	Benefactor
Sai & Maggie Kakumanu	Benefactor
Jamie Kenas	Benefactor
David Knowlton	Benefactor
Laura & Roy Lanier	Benefactor
Greg Legas	Benefactor
Brenda Lorenz	Benefactor
Dave Lorenz	Benefactor
Tod Markin	Benefactor
Kelly McGrew	Benefactor
Kevin & Karen Mulford	Benefactor
Will & Jenni Nelson	Benefactor
David & Tara Pearson	Benefactor
Rath, Damon & Jean Futch	Benefactor
Howard Ritter	Benefactor
Christian & Wendy Rubach	Benefactor
Jill & Robin Sumner	Benefactor
Andrew & Bonnie Watts	Benefactor
**********	******
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Jan Anschuetz	Patron
Steven Balke	Patron
Christopher Bankston	Patron
Sean Bloch & Emiliy Kulokas	Patron
Kyle Brinkman	Patron
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Guy & Kelly Earle	Patron
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Steve & Cindy Fredlund	Patron
Steve Gaber & Karen Sell	Patron
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Steve Gross & Julia Winston	Patron
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Timothy & Mary Ann Harris	Patron
Sharon Herman	Patron
& Melissa Hughes	
Charlie & Linda Hoffman	Patron
Matt Hughes & Manuel Ordonez	Patron
Bruce King	Patron
Matt Labadie & Jennifer Willman	Patron
Bill Larsen	Patron
Joe & Shirley Litton	Patron
Steve & Jeri Maiaroto	Patron
Allen Maroney & Tracee Elliott	Patron
Herb Monroe & Martha Stewart	Patron

St. Petersburg Astronomy Club *Examiner*

David & Kathryn Musser	Patron
Leeann Muszynski	Patron
Robert Nadeau & Ali Wuchert	Patron
Bill & Kim Northup	Patron
Dominick Oppolo	Patron
Stephen Oros	Patron
Michael & Carli Partain	Patron
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Alan Polansky	Patron
David & Jenny Powell	Patron
Thomas & Andy Prince	Patron
John & Abbie Redmond	Patron
Gregory Satchwell	Patron
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Jonathan Stewart	Patron
Tom & Michelle Sweet	Patron
Wally & Ramona Vazquez	Patron
Alexie Velez & Yanira Hernandez	Patron
Elizabeth Wood	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 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, Z	Zip:	
Home Phone	:	Cell Phone:
Email Addre	ss:	
		ınder 18:
Memberships	s:	
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 Submit	ted:	\$

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

SPAC October Meeting 10/26/2023 Pot Luck Party 7PM

Location: Philip Benjamin Social Arts Building - Party Room 116.

Barbecue Pork provided by SPAC. Please bring a dish to share.

Park on the south side of the building next to 5th Ave. S. It is ok to park in several Staff Parking spaces during this time. The only unlocked door to the building will be the Room 114 outside access door facing the south parking lot. The rest of the building's outside doors will be locked.

