



June 2016

Editor -Jack Fritz

The St. Petersburg Astronomy Club, has been the center of family astronomy in the Tampa Bay Area for decades. Its 301 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

KYLE BRINKMAN

★ "You teach me baseball, and I'll teach you relativity...No, we must not. You will learn about relativity faster than I learn baseball."
- Albert Einstein



Among the most revered ideas of the 20th century, and least understood, is relativity. Relativity is an elegant theory that has proven to be true and leads to both wonderful and terrible discoveries. For all its mystery, it uses math that is no more complex than high school algebra. After 100 years of relativity, we have seen its application to powering homes, providing a model for Mercury's irregular orbit and now a discovery of gravitational waves.

Contrast the elegant ideas of Einstein against the rules of baseball. Relativity is predictable; the math works every time, no contingencies, no sub-clauses. Baseball has a lot of rules and interpretation of rules. Every swing of the bat can change the outcome of the game. If the ball hits one ring at Tropicana field, it is a home run and another ring is a foul ball. The rules have provisions for contingencies. A batter can have three strikes and steal first base if the catcher drops a

ball. I believe that is what we love about baseball and what we struggle with in relativity. Einstein preferred the elegant solutions while struggling with the concept of probability theory in quantum mechanics. Another famous quote in reference to probability theory was "God does not play dice."

What does this have to do with us? We learned a lot from relativity. We were able to discern the cosmic red shift and the components of stars. The daydreaming exercises of a young German Jew transformed our understanding of the universe. Keep looking up.

New Members

We would like to welcome Mark Spence, Eric & Deanna Straub, Mike Partain & Carolyn Van Zandt, Lynda Monchak, Goge Stofen, Constanza Otero, Steve Derry, Andrew Watte, Peter Downes & Stephen Phillips, and Ronnie & Mary McAlister to our family of members.

General Meeting

This month's meeting will take place on Friday, June 24th at 8:00 PM, at the Science Center of Pinellas County, 7701 22nd Ave. N, St. Petersburg, FL.

The main program will be a video on Pluto followed by *100 Years of Relativity*, by Kyle Brinkman.

Upcoming Programs

August - *Exoplanets*, by Dr. Simon Schuler, University of Tampa.

September - TBD, Dr. Kevin MacKay, University of South Florida.

Club Meeting Hurricane Policy

Hurricane season is upon us. We may cancel the meeting if a hurricane is threatening Pinellas County. If that happens, we will send a cancellation notification via email. Alternatively, you may call Allen Maroney at 727 867-4781 or Jack Fritz at 813 508-5680 to check on the status of the meeting.

Member Appreciation

KYLE BRINKMAN

★ Have you struggled to keep up with all that is going on in the sky and the news of space exploration? Those of us following the club's Facebook page may have noticed a regular contributor who scours the internet and posts the upcoming week's events as well as news in space. Wally Vazquez has been sharing this information on our page for the benefit of those who are interested but may not have the time to hunt all this information.

You might not know that Wally is also a huge contributor to our public outreach programs, attending many events throughout the year. We all love the door prizes at the OBS Star Party. Wally puts in a great deal of effort securing the donations and preparing for the event as a valued member of the OBS Committee.

Wally, thank you for what you are doing. Your efforts are an important part of our mission of science education.

Membership Chair Request

SHIRLEY VUILLE

★ Please feel free to contact me if you have any questions or concerns about your membership. svuille@aol.com

Please refer to the SPAC Calendar on our website for upcoming events or rain date changes.

July Astronomical Events

STEVE ROBBINS

★ On Friday, July 1st, you will find Aldebaran only 0.4° south of the Moon.

Wednesday, July 6th, Mercury is again at superior conjunction, but another transit is precluded by being above or below the Sun. It is merely a "new" Mercury and from our vantage point entirely unlit by the Sun.

Saturday, July 9th, Jupiter will be 0.9° north of the Moon.

Wednesday, July 27th is the Delta Aquarid Meteor Shower with a ZHR of approximately 20. This meteor shower is a strange and long-playing bird, actually stretched out between July 12 and August 23 each year. During the Perseid Meteor Shower in August, Delta Aquarids will still be flying through the sky along with Perseids!

Friday, July 29th, Aldebaran again moves 0.3° south of the Moon.

Saturday, July 30th, Regulus passes 0.3° north of Mercury.

July is the month of the Full Sturgeon Moon for the sturgeon, which were an important food source for Native American tribes.

The Moon

- New Moon - July 4, 07:00 EDT
- First Quarter - July 11, 20:51 EDT
- Full Moon - July 19, 18:56 EDT
- Third Quarter - July 26, 18:59 EDT

NASA News

STEVE ROBBINS

★ Space programs are like ducks. There's the flashy stuff above the water that attracts our attention. But the most important events are taking place out of sight, beneath the surface. During the next two weeks, SpaceX will brief space insurance underwriters on the viability of its reusable booster program. Critical to the use of reusable boosters is their insurability at affordable rates, and both [SpaceX and insurance companies are enthusiastic](#) about the robustness of SpaceX's Falcon 9 program.

A NASA space probe that may have escaped attention, Juno, is only 25 days from its encounter with the giant planet, where it will enter orbit with a [35-minute burn of its rocket engine](#). Unlike previous probes that studied Jupiter's moons and rings, this probe is to orbit close to Jupiter itself and study the planet. Big deal, you say? Jupiter is the most toxic radiation environment in the solar system! It will take a highly elliptical orbit to avoid the worst parts of Jupiter's radiation belts, but will still need the first ever radiation shielded electronics vault to keep its brain alive. [Orbiting to within 3,100 miles of Jupiter's cloud tops](#) and in a polar orbit, we will see things never imaged before and learn about a near star who lacked the mass to be born.

The Hubble Space telescope has been [studying an isolated dwarf galaxy, UGC 4879](#), which is over 2.3 million light years from its nearest neighbor. Its isolation has been a useful characteristic for studying stellar evolution unaffected by gravitational influences of spiral arms or other nearby galaxies. Curiously, findings so far reveal a burst of star formation in the first 4 billion years after the big bang, followed by an almost total cessation for the following 9 billion years. Only in the

last billion years has there been a renewal of star formation and now the question is "why?"

Mirror Lab

RALPH CRAIG

★ Devon has pretty much finished polishing 10" mirror and should start figuring it soon. We had a father-son team, Eric and Deric, who came to last month's public viewing, bring in their telescope for a tune up. We tested their 6" f/4 mirror, and Allen cleaned the optics, center dotted their mirror and collimated the telescope.

Dimitri gave Eric's son a book on observing the sky. Deric was completely captivated by it.



Allen & Ralph tune up Eric's & Deric's Telescope

More pictures are available on the mirror lab web page at www.telescopelab.com and on Mike Davis's website, www.mdpub.com, and on Allen's web page, www.knology.net/amaroney.

The award-winning Mirror Lab welcomes interested visitors to their facility at the Science Center's rear annex. The lab is open on Saturdays between noon and 4:00 pm. Several experienced and skilled tutors are there to give you support, help & instruction. For more information call Ralph Craig 727 384-2086;

Paul McNabb 727 345-5713; or Allen Maroney 727 867-4781

If you have any surplus telescope parts, the mirror lab could use them for various projects.

New Moon at Withlacoochee

KELLY ANDERSON

★ The Rainy Season is upon us (Season's Greetings!) so we can expect our weekend observing will face a few cloudy obstructions for the next several months. Joe Canzoneri, Ron Wayman, Jack Fritz, and Mike Partain set up their RVs on Friday afternoon and were joined by a few guests later that evening. Friday night was a wash out with pretty much total cloud cover.

Saturday was hot, so folks tended to hide in their air-conditioned shelters, but the weather was generally good with the usual fair-weather cumulus clouds (*bows and flows of angel hair, ice cream castles in the air*) that mostly cleared out after sunset. A few clouds continued to hang around, but there were enough holes that our intrepid imagers were able to obtain some interesting shots.



Joe's M20, The Trifid Nebula

Bugs were mostly no-shows, except for the usual suspects who arrived just before dusk and buzzed around for several hours, then went to wherever mosquitoes go when

they're done making nuisances of themselves. Overall, Saturday turned out to be a fairly good evening of observing, making the trip worthwhile.

Sunday morning everyone cleared out early to escape the heat. The next DOTM will be July 1 - 3. No doubt, some of our more adventurous astronomers will hang around for the Fourth. If you can, join us for an afternoon and evening, especially if the skies are looking to be clear. Our dark site is just an hour's drive from the Big City.

Jack added these observations: "We had a great weekend with a few more attendees than I expected. At first, it looked as though Joe, Ron and I would be the only attendees. Then Franklin showed up with a friend and Mike Partain, who recently rejoined SPAC after several years away, arrived with four friends.

Franklin demonstrated just how to rough it, tent camping in the Summertime. First, he pitched his tent under the canopy for shade and then hooked up a portable air conditioner. Who would have thought that you could have an air conditioned tent?

Friday night was almost a complete bust. Just a few sucker holes now and then. But Saturday made up for it. While we did have some clouds around, it was mostly clear overhead. We had two couples visit from the Orlando area who had never experienced the night sky through a telescope before. They were treated to good views of Jupiter, Mars, and Saturn. "Wow!" was a frequent response. Several clusters both open and globular plus a bunch of galaxies were also on the menu."

SPAC Business Meeting 

The Business Meetings are normally held on the second Wednesday of each month. Our next meeting is Wednesday, July 13th, at 8:00 PM at the Science Center. All interested members are invited to attend. All club business decisions are made at the business meeting so as not to encumber the general meeting.

Officers & Directors

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| Club Webmaster: | Chris Curran | 813 653-2604 |

Click on the name to send email

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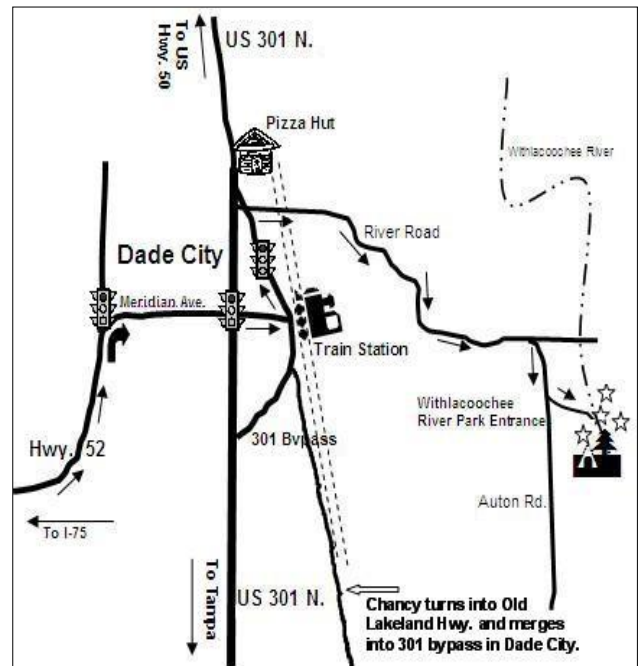
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| Mirror Lab | Ralph Craig | 727 384-2086 |

Withlacoochee New Moon Weekend

Our next New Moon Weekend falls on July 2nd and 3rd.

The park gate is locked at Sundown, so you will need to arrive before then. The year-round camping fee with electrical use is \$10/night for club members and \$20 for non-members. Tent camping without electric is \$5/night.

Be reminded that if you are not camping, you must pay the \$2/vehicle fee. Vehicles displaying the handicap parking tag are exempt. For further information, contact Bill or Nancy Huff. starhopr3@msn.com or 813 621-3606.



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



15406 Stonecreek Lane
Tampa, FL 33613

SPAC, INC. MEMBERSHIP INFORMATION

Membership in St. Petersburg Astronomy Club, Inc. is open to anyone, regardless of age, who is interested in astronomy. Dues are considered donations and are non-refundable. Membership options are available as listed below:

To join or renew your membership:

Complete the following form and return it with your payment to: Jim Hunter - Treasurer, 17316 Oak Ledge Dr., Lutz, FL 33549-7626 - Telephone number (813) 909-7013 (checks should be made payable to SPAC, Inc.)

Name: _____ Telephone Number: _____

Spouse: _____ Children (*Under 18*): _____

Address: _____ City: _____ St. ____ Zip: _____

E-Mail address: _____ Newsletter Preference: Email [] US Mail []

Single: [] \$ 20.00/YR. Includes one adult, minor children, the "SPACE" newsletter, and all the rights and privileges of membership.

Family: [] \$ 25.00/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.