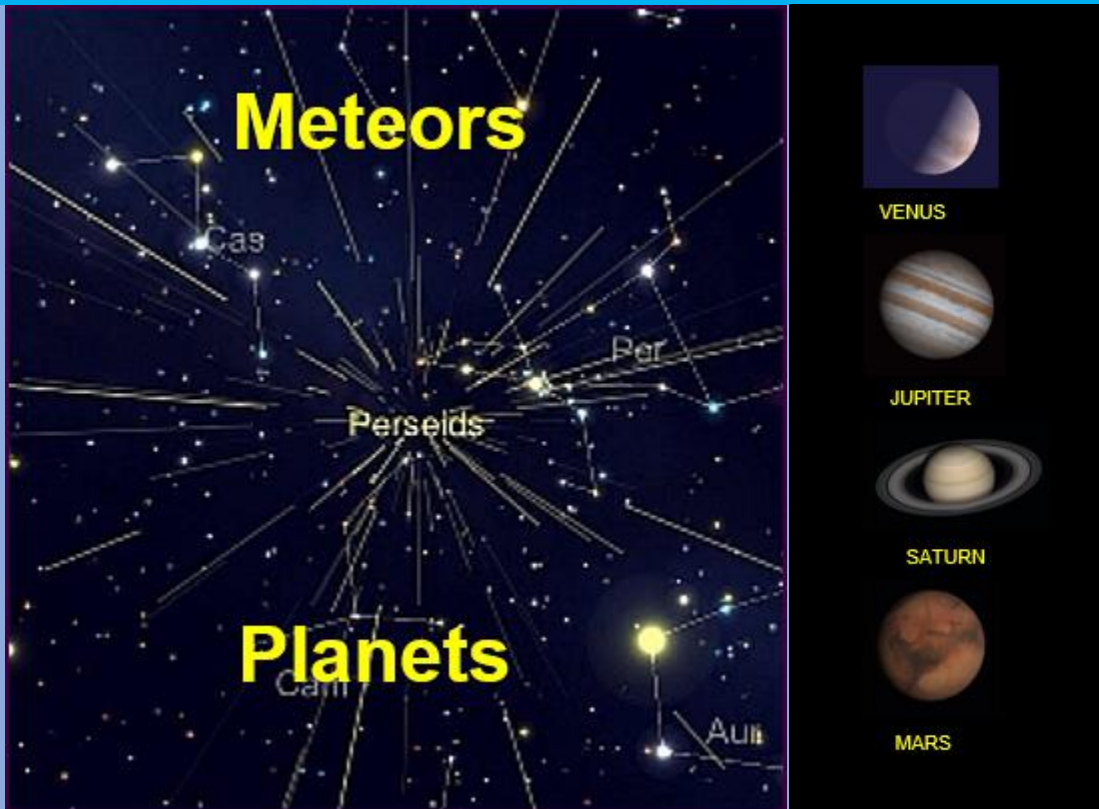




OBSERVER

AUGUST 2018

Bringing Stars to the eyes of Tulsa since 1937



Come Join Us for an evening under the stars Saturday Aug 11 – Details on page 2

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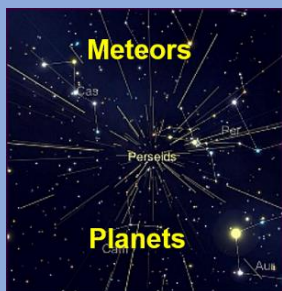
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Astronomy Club Events

Details at <http://astrotulsa.com/Events.aspx>

AUGUST			
PUBLIC NIGHT	SAT AUG 4	8:00 PM	ACT OBSERVATORY
MEMBERS' NIGHT	FRI AUG 10	8:15 PM	ACT OBSERVATORY
PUBLIC METEOR SHOWER WATCH	SAT AUG 11	8:15 to 2 AM	EVENTS PARK in BA
Woolaroc Astronomy Day	SAT AUG 18	1 PM to 9 PM	Woolaroc
SIDEWALK ASTRONOMY	SAT AUG 18	7:00 PM	BASS PRO
SEPTEMBER			
PUBLIC NIGHT	SAT SEP 1	7:30 PM	ACT OBSERVATORY
LABOR DAY	MON SEP 3		
MEMBERS' NIGHT	FRI SEP 7	7:45 PM	ACT OBSERVATORY
MEMBERS' night at TUVa near Chouteau	SAT SEP 8	Leave 3:30 PM	TUVa observing area
GENERAL MEETING	FRI SEP 14	7:00 PM	JENKS PLANETARIUM
SIDEWALK ASTRONOMY	SAT SEP 15	6:30 PM	BASS PRO
AUTUMNAL EQUINOX	SAT SEP 22		
PUBLIC NIGHT	SAT SEP 29	6:45 PM	ACT OBSERVATORY



Meteor Shower and Planet Watch night Sat. Aug 11 8:15 PM to 2:00 AM on Aug 12

Broken Arrow Chisholm Trail Events Park
21101 E 101st St, Broken Arrow, OK

[Google Map Link](#)

We still need volunteers to bring telescopes or help with the public.
Email tulsaastrobiz@gmail.com ASAP if you can help

The public is invited to join us under the stars for a night watching meteors and viewing planets. The planets Venus, Jupiter, Saturn and Mars will be well placed for telescope viewing. Also the annual Perseid Meteor shower reaches its peak that weekend. The shower produces about 50 meteors per hour from dark skies. But we should be able to see several dozen meteors from this site. No special equipment is needed to watch meteors. Just sit back and watch the sky overhead.

Bring along a notepad to record your sightings and come enjoy the show. There is plenty of parking. Bring your lawn chairs, or a blanket to sit on. Bring along something to drink or snack on. (no alcohol please) The park has no running water but does have two portable toilets.

Astronomy Day at Woolaroc – Sat Aug 18 – 1:00 PM to 9:00 PM

Our Tulsa club is partnering with the Bartlesville club to present astronomy activities during the daytime and a brief session of telescope viewing at dusk. Woolaroc is located on highway 123 about 12 miles SW of Bartlesville. Their website is <https://woolaroc.org/> The park features herds of buffalo, elk and other wildlife as you enter the park. The museum has an excellent collection of western art. There is also a children's petting area and other attractions for families.

There is an admission fee for those not directly involved in the astronomy outreach. The park closes at 5:00 PM for regular guests. Woolaroc members must RSVP for the evening observing. See their website for details.

PRESIDENT'S MESSAGE

BY TAMARA GREEN



Hey Y'all!

I know this is a really lengthy message this time, but we have some really fun events coming up in August and September, and we will need volunteers for at least two of them so that they will run smoothly.

The first exciting event coming up is our **Perseid Meteor Shower Watch Party!** It will be on **Saturday, August 11** at the Broken Arrow Chisholm Trail Events Park, 21101 E. 101st St., Broken Arrow. The park is located just East of the NSU Broken Arrow Campus and the Creek Turnpike. The entrance is off of 101st St. This event will begin at **8:15 PM and end at 2:00 AM on Sunday, August 12.** We expect to have quite the crowd, so the more volunteers show up to help, the better. I would also strongly advise that you bring your own water, snacks, bug repellent, etc. to keep yourself hydrated and comfortable.

Next on Aug 18 - **Astronomy Day at Woolaroc!** We are partnering with the Bartlesville Astronomical Society for this event. We are to be there at about 1:00 PM, and have various activities set up in and near the events center. Since my husband's solar rig is not working right now (the prism fell off and is rattling around inside the scope; we are having it sent off to get it fixed), we will need volunteers with solar telescopes as well as maybe Night Sky Network kits for guests to play with. We also need someone to do a 30-minute talk on astronomy equipment at 6:30 PM. At 7:00 PM, we will head outside to see what we can see in between then and 9:00 PM. At best, we will only begin to see the brighter planets and the moon before we have to break down, pack up and leave, as they want us off the property by 10:00 PM. Last I heard, they are planning on giving us a pizza dinner too!

We will have **Sidewalk Astronomy at Bass Pro on Saturday, August 18** (same day as the Woolaroc event), for those of you who can't make it to Woolaroc. In fact, Owen and I would really appreciate it if someone could be there at Bass Pro to take care of Sidewalk Astronomy on that night.

Public Night will be on Saturday, Aug 4th and September 1 at the Observatory at 7:30 PM. WE want to make these events more welcoming to our guests. So we need YOU to volunteer!

AT LEAST TWO people, if not three, to run the telescope and spin the dome. I would like that many in case one needs to take a break.

Someone to do the laser pointer-guided constellation tour of the night sky. If you have that certain Je-ne-sais-quoi that can keep an audience engrossed, you are more than welcome to help out.

Someone to keep the coffee and hot water going so our guests can have coffee and hot water for hot chocolate and tea, and yes, even in the summertime, people still need their caffeine!

Someone to man the table in the classroom. Usually, Tim and Teresa do this, as many people come up to give donations or pay their membership dues.

Someone to act as Host or Hostess. I would like at least two people for this. I already have asked Owen to be our Host, as he is very good at being "Mr. Social Butterfly". He likes to wander around and talk to our guests. The Host and Hostess (or other host) can talk with guests, introduce them to club members and show them around. He and she (or he) can also help make announcements when the telescope operator for the evening is ready for the next group.

Speaking of the next group, I would like to see all of our guests SIGN UP for the dome shows, and they could be grouped into groups of 15. Adults with small children could go up first, then adults with older children, then teens and adults, then adults. This is so that people with small children can enjoy a dome show, and then get the children home before they get tired and cranky! I even was given an idea by our VP that we could number the groups 1,2,3, etc. and then all we would have to do is give each guest the number of their group.

Someone to help our guests with parking, if possible. I would like to see parking handled the way Chris did it when he was still with us. All vehicles parked on the field facing North, so that they don't have to worry about backing up and running into someone in the dark or knocking over someone's equipment.

We will be having a special members-only star party at **TUVA near Chouteau, OK on Saturday, September 8!** This is because we have not been able to have a Messier Marathon for two years in a row, due to weather. I will be leading the caravan down there, we can have a pot-luck dinner and then observe! Ron and Maura and I are all looking forward to this! I hope you can come and have some much-needed fun! More details will be coming later in the month.

Our **General Meetings at the Jenks Planetarium will resume in September.** The September General Meeting will be on **Friday, September 14 at 7:00 PM** at the Planetarium. I will try to have a good program put together. Details coming later in the month.

High Frontier Rocket Launch will be at the Pawhuska Municipal Airport on September 29 and 30 this year. This will be on a Saturday and Sunday. We have volunteers from our club come out and watch the rocket launches and do solar during the day (hopefully Owen's Coronado will be fixed by then) and then a star party that night! If you can come help out with this one, you are certainly welcome to! More details coming later in the month.

Do not forget the week-long Okie-Tex star party in western Okla. It is going to be from October 6-14 this year. Registration is due by no later than September 15, 2018 for both the event and meals! Go to . <http://www.okie-tex.com/> for details.
I hope to see you all at these fun events!

Clear Skies!

Tamara



MidStates Astronomical meeting – June 22 – 24 – Springdale, Arkansas

Each summer 22 astronomy clubs from our Midstates region gather for a weekend meeting to listen to some great speakers. Visit with and share ideas with other clubs and just generally share our passion for astronomy. (Did I mention Great Door Prizes too !) The Midstates region includes Northern Oklahoma, Kansas, Nebraska, Missouri and Arkansas. www.msral.org

This year's event was hosted by the [Sugar Creek Astronomical Society](#) of Pineville, MO and held at the headquarters of [Explore Scientific](#) in Springdale, AR. Activities included a behind the scenes tour of Explore Scientific facilities, "Star BBQ" and star party at Hobbs State park. Banquet with noted author and comet hunter, David Levy, as keynote speaker.

A number of other presentations included "Space Volcanoes" by **Caitlin Ahrens** – Pluto manger – Arkansas Center for Space & Planetary Sciences - who is working with images from the New Horizons spacecraft to Pluto. **Ken Ledbetter** – Hubble Space Telescope Program Manager - July 1992 to March 1996 – telling us about the successful efforts to correct its faulty optics at launch. **Don Ficken** – describing the success of Library Telescopes programs. Other topics included as preserving the night sky and video astronomy. There was also an NSN trailer of interactive astronomy activities for kids.

The Bartlesville club was well represented with a seminar on youth in astronomy. Their very talented 16 year old, **Abigail Bollenbach** did an excellent presentation of the "Cassini-Huygen's Legacy". Abigail is the 2018 winner of the Astronomical Leagues Young Astronomer award.

Tulsa Club members, Ed Downs, John Land and Rick Walker attended.

See more images from the convention and Ed's Interesting perspective on Astronomy and Aviation on following pages.



Explore Scientific <https://explorescientificusa.com/>

Quality instruments for novice to advanced astronomers. They also carry microscopes, binoculars and sighting scopes for hunting

Visit their online selections or take a trip to their nice showroom located just 2 hours away in Springdale, AR

Showroom Hours are **Mon – Fri** 10 AM - 5 PM **Sat** 12 PM - 5 PM



Keynote Speaker David Levy with Scott Roberts of Explore Scientific Presenting the Grand Prize custom Levy Comet Telescope to winner Dr. Catherine Anderson



Center Abigail Bollenbach – 2018 Youth Astronomer part of a forum to get youth involved in Astronomy

Right: NSN Astronomy Activity Exploration trail for kids activities.





Tulsa Club member, **Ed Downs**, gives us a fresh perspective to his passion for astronomy from the eyes of a lifelong aviator.

Ed is a relative newcomer to our club, having joined in 2011, with a work schedule that has interfered with regular club participation. But that has not stopped Ed from enjoying a passion for astronomy that began in the fifth grade and continues to this day. His real calling has been aviation, an activity he still pursues today as a pilot instructor, tutoring over 300 students a year in all FAA pilot ratings. Having begun flying in 1955 (age 14), Ed will hit 77 orbits of the sun this month. He continues to fly, serve as an editor for a national aviation magazine and run a small ranch with some 30 alpaca and llama “critters” to take care of.

With over 15,000 hours flying time (in over 120 different aircraft), ranging from 1920’s antiques to the giant Boeing 747, Ed served as a pilot instructor for TWA, later being assigned to certification of both the B-747 and Lockheed L1011, He later participated in senior flight management with Continental Airlines, spending four years in Washington DC representing the airline industry in regulatory issues at the FAA, Congressional and Executive levels. Joining Lockheed gave Ed the chance to get directly involved in flight test engineering, leading to the ownership of his own aircraft company. In between big company engagements, Ed flew jet charter and special mission around the world. Ed has conducted over 30 first flights in experimental aircraft and worked closely with NASA in developing flight crew procedures. He has been recognized with a lifetime achievement award (Spirit of Flight Award) by the Society of Experimental Test Pilots, now on display at the Experimental Aircraft Association headquarters and world class museum in Oshkosh, WI.

Career highpoints? According to Ed, “Serving our country in the Air Force, instructing on Air Force One, flying high enough to see the curvature of the earth, being asked to evaluate the Orion Spacecraft hot mock-up and being a good shepherd to my critters.”

What’s next, “haven’t got a clue, I am still trying to decide what I will be when I grow up.”

Ed writes for and edits an national aviation magazine – [*In Flight USA*](#)

Below is an article he wrote comparing aviation “Fly Ins” to the MSRAL astronomy event.

August Skies to Stars, The Galactic Fly-in by Ed Downs

As some readers may know, this writer is a great fan of amateur astronomy and astrophysics, occasionally penning a column titled “Skies to Stars.” The column’s theme is to relate astronomy with flying, as they have much in common. The purpose of an airplane is, after all, to enable travel. Aviation has opened the airman’s world to wonderful cross countries and globe circling adventures. It is no wonder that this writer’s childhood desire to see far off places would result in an aviation career and lasting interest in astronomy and space travel. You see, astronomy offers the greatest cross-country adventure one can experience and still be earthbound. While the average aviator flies for hours to see different sights, the telescope traveler can overcome lightyears in a matter of minutes to see billions of years back in time, or perhaps just hover 700 miles above the Moon’s surface, admiring the mountains, valleys and lava “seas.” July was an exciting travel month for many atmospheric dependent aviators, with both the Arlington Fly-in and EAA AirVenture within just days of each other. The excitement, comradery and just plain fun of a fly-in is hard to beat. This writer missed these two great shows but did attend a truly fun event which brought aviation and astronomy even closer together, a “fly-in” experience that was unexpected and tremendously satisfying. Allow me to share.

Enter my astronomy pal, John, and an invitation to accompany him to the Mid-States Region Astronomical League 2018 Convention. The main convention site was in Springdale, Arkansas, with a “star party” being held in the Hobbs State Park near Rogers Arkansas and a main dinner

event, with featured speaker Dr. David H. Levy, utilizing facilities at the Northwest Arkansas Community College in Bentonville (Walmart HQ). Yep, lots of travel and places to see, just like a fly-in. The Mid-States Regional Astronomical League represents astronomy clubs in a five-state area, with the local Sugar Creek Astronomical Society (much like an EAA chapter) providing coordination of the event. These groups, along with many local astronomy clubs throughout the U.S., provide a huge amount of support for public scientific educational programs. Facilities for the three-day gathering were provided by a relative newcomer to the hardware end of astronomy (telescopes and other scientific equipment), Explore Scientific, now celebrating its 10th year in business and offering a remarkable variety of scopes for all levels of astronomy. This writer was reminded of many fly-ins sponsored by aircraft or accessory manufacturers who open their facilities to share the inside workings of fun flying.

We arrived at the Explore Scientific base camp following an uneventful drive of just under three hours, punctuated by the melodic chant, “are you sure that GPS is right?” We quickly joined a group taking a tour of Explore Scientific, lead by Founder and President, Scott Roberts. Scott’s enthusiasm for both astronomy and the products offered by his company was infectious, very much like days past when this writer conducted tours of an aircraft plant. Our crowd of science nerds soaked up the atmosphere of quality and perfection that personified Explore Scientific, supported by a loyal group of employees that saw to our every need. The tour ended in a place of great economic danger, the product show room, with a remarkable variety of telescopes, goodies and gadgets on sale, kind of like walking into Aircraft Spruce with a guilt free credit card in your pocket. There should have been a consumer warning sign on the door suggesting you eat your credit card, but *nooooo*; just courteous employees who were only too happy to demonstrate the latest “must have” item. Explore Scientific is an international company, both manufacturing and importing a wide variety of telescopes (from beginner to highly advanced astrograph systems), including microscopes and science kits that are marketed under different brand names, such as Discovery Channel and National Geographic. They even offer high quality rifle scopes for the sporting market. Their website, www.explorescientificusa.com, is certainly worth a visit.

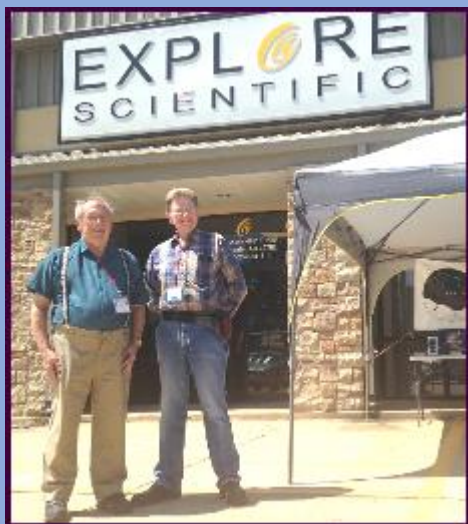
Like many regional fly-ins, the three-day event offered seminars and presentations by the elite in astronomy. Programs included talks on extension education for children, scopes being made available through public libraries and even programs to help keep America’s skies dark. One must remember that generations of city dwellers have never actually seen the vastness of the Milky Way galaxy, our home. Friday night included a “star party” at the Hobbs State Park, complete with dark skies and a breathtaking lodge. Star parties are great fun, with local astronomy club members setting up dozens of telescopes, each looking at different distant objects. Just think, planets, moons, star clusters, nebulae, galaxies and billions of years of history, all in one place. Sort of like strolling down the flight line at EAA AirVenture. You meet and talk with folks from many states, unable to see any of them ... remember ... astronomers play at night, the darker, the better. You see new gadgets, lie about how much your equipment cost (twice what I tell my spouse) and brag about seeing space aliens. Of note, was the local club’s use of party glow sticks around the bases of their equipment to keep others from tripping in the dark. Shucks, at our club we just grade face plants. Those Arkansas folks are smart! Nobody can really see each other, so you can even claim to be Sheriff Lamb (the cowboy hat guy on YouTube, ladies’ latest hotty) and get away with it, for a while!

I met Scott Roberts once again upon arriving at the Saturday night dinner. Scott was delivering the grand door prize, donated by Explore Scientific, a specially dressed out 152mm “Comet Hunter” telescope. Given the dark night and large, unoccupied parking area, this writer offered to

help carry some of the equipment in. For a moment, I envisioned myself taking my coveted prize home, as this scope is my personal dream for the perfect “grab and go” system. I shook myself out of my momentary reverie and returned to watching where I was walking. I did, however, gently stroke the equipment, hoping to impart some winning mojo for when the grand prize ticket numbers were called. The Saturday featured dinner speaker was none other than Dr. David H. Levy, famed author, astronomer and comet hunter <http://www.planetary.org/connect/our-experts/profiles/david-levy.html>

Dr. Levy’s talk was informative, creative and surprisingly funny. Yep, scientists do have a sense of humor, highlighted by Dr. Levy’s refusal to call the “PLANET” Pluto a “dwarf planet.” Go Doc! Oh yeah, about the grand prize drawing ... it was won by a very deserving person ... not me!

Yes, three days of fun, typified by 16 year old Abigall Bollenbach, a home schooled high schooler who gave a learned talk on “Cassini-Huygens Legacy.” Her brilliance regarding this epic spacecraft voyage to Saturn convinced me that Ms. Bollenbach will grow up to be a true contributor to mankind’s understanding of our place in the universe. I thought back to my proudest moment at the age of 16, figuring out how to hand prop an Aeronca Champ with no one in the cockpit, and live to tell the story. Yep, this writer ended up as a professional pilot ... allowing me to skip the “growing up” part! The MSRAL Convention was a “fly-in” in every sense of the phrase. Truly smart people treated this old airman as an equal and everyone shared their excitement and knowledge about the hobby of star gazing, knowing that the amateur world of astronomy is quickly catching up to professional capabilities. Fly-ins do much the same, as homebuilders and store-bought airplane enthusiasts share their passion for flying with newcomers who ask questions about learning to fly and owning a plane. Learn more about local astronomy clubs and public astronomy activities by visiting www.astroleague.org



John Land and Ed Downs
at MSRAL



Astronomer’s “Heaven” Telescope showroom
Explore Scientific in Springdale, AR

TREASURER'S AND MEMBERSHIP REPORT

BY TIM DAVIS



Astronomy Club of Tulsa: 175 members, including 34 new members in 2018.

New Members for July : Michael Harshell, Christy Mason, Favian Barcia & Michelle Behrens

Club Accounts as of July 30, 2018:

Checking: \$ 2,630.02

Savings: \$ 6,778.99

Investment accounts: \$ 23,316.50 *(Value Fluctuates with Market)*

The club now has PayPal available for you to start or renew memberships and subscriptions using your credit or debit cards. Fill out the registration form at <http://astrotulsa.com/page.aspx?pageid=16> **Click Submit** and you will be given the choice of either **mailing in your dues** with a check **or using PayPal** which accepts most major credit cards. A modest processing fee is added to PayPal transactions.

You may also renew your membership or join at one of our club events using your credit card by seeing one of our officers. We can take payments with the Square card reader. A small fee is also added on to these transactions.

ALSO NOTE: For our current members who are renewing their memberships, you can now go to a new link on the website to start your renewal process. On the home page, hover over the "Member" tab on the ribbon menu near the top of the page. Then select the "Membership Renewal" link and this will take to a page to fill out your information. Fill this out, submit it, then pay your dues by whatever method you choose.

NEWS NOTE: Both Sky & Telescope and Astronomy have free Digital subscriptions available with print subscriptions, or Digital subscriptions may be purchased separately. Contact their websites for details.

Membership rates for **2018** are as follows:

Adults: \$ 45 per year, includes Astronomical League Membership.

Sr. Adult: \$ 35 per year for those 65 or older, includes Astro League Membership.

Students: \$ 30 with League membership; Students: \$ 25 without League membership.

Additional Family membership: \$ 20 with voting rights and League membership.

\$ 15 with voting rights but without League Membership.

The regular membership allows all members in the family to participate in club events but only ONE Voting Membership and one Astronomical League membership.

Join Online – Add or renew magazine subscriptions.

<http://www.astrotulsa.com/page.aspx?pageid=16>

Magazine Subscriptions: If your magazines are coming up for renewal, try to save the mailing label or renewal form you get in the mail. Forms are available on the club website.

Astronomy is \$ 34 for 1 year, or \$ 60 for 2 years. www.astronomy.com

To get the club discount you must go through the club group rate.

Sky & Telescope is \$ 33 per year www.skyandtelescope.com

Sky & Telescope also offers a 10% discount on their products.

Note: You may renew your Sky & Telescope subscription directly by calling the number on the renewal form, **be sure to ask for the club rate.**

NEW SUBSCRIPTIONS must still be sent to the club



This article is distributed by NASA Space Place.

With articles, activities and games NASA Space Place encourages everyone to get excited about science and technology.

Visit spaceplace.nasa.gov to explore space and Earth science!

The Best Meteor Shower of the Year

By Jane Houston Jones and Jessica Stoller-Conrad

Video Version of Article [HERE](#)

If you're a fan of meteor showers, August is going to be an exciting month! The Perseid meteor shower is the best of the year, and in 2018, the peak viewing time for the shower is on a dark, moonless night—perfect for spotting meteors.

The best time to look for meteors during this year's Perseid shower is at the peak, from 4 p.m. EDT on Aug. 12 until 4 a.m. EDT on the Aug. 13. Because the new Moon falls on the peak night, the days before and after the peak will also provide very dark skies for viewing meteors. On the days surrounding the peak, the best time to view the showers is from a few hours after twilight until dawn.

Meteors come from leftover comet particles and bits from broken asteroids. When comets come around the Sun, they leave a dusty trail behind them. Every year Earth passes through these debris trails, which allows the bits to collide with our atmosphere and disintegrate to create fiery and colorful streaks in the sky—called meteors.

The comet that creates the Perseid meteor shower—a comet called Swift-Tuttle—has a very wide trail of cometary dust. It's so wide that it takes Earth more than three weeks to plow all the way through. Because of this wide trail, the Perseids have a longer peak viewing window than many other meteor showers throughout the year.

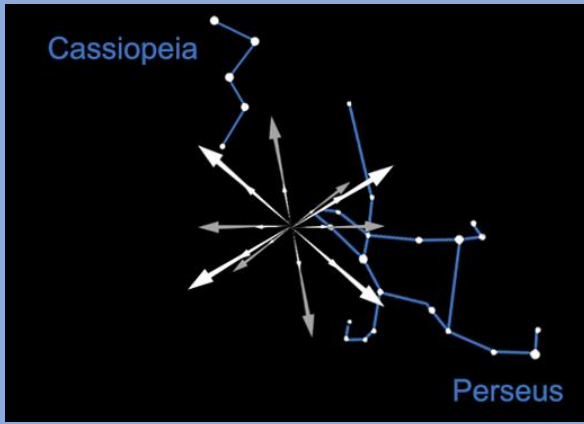
In fact, this year you should be able to see some meteors from July 17 to Aug. 24. The rates of meteors will increase during the weeks before Aug. 12 and decrease after Aug. 13. Observers should be able to see between 60 and 70 meteors per hour at the shower's peak. *Suburban areas will see less but should see several good bright ones if you stay out an hour or two.*

The Perseids appear to radiate from the constellation Perseus, which is where we get the name for this shower. Perseus is visible in the northern sky soon after sunset this time of year. Observers in mid-northern latitudes will have the best views.

However, you don't have to look directly at the constellation Perseus to see meteors. You can look anywhere you want to; 90 degrees left or right of Perseus, or even directly overhead, are all good choices.

While you're watching the sky for meteors this month, you'll also see a parade of the planets Venus, Mars, Jupiter and Saturn—and the Milky Way also continues to grace the evening sky. In next month's article, we'll take a late summer stroll through the Milky Way. No telescope or binoculars required!

Catch up on all of NASA's current—and future—missions at www.nasa.gov



The Perseid meteor showers appear to radiate from the constellation Perseus. Perseus is visible in the northern sky soon after sunset this time of year.
Credit: NASA/JPL-Caltech

Video Version of Article [HERE](#)



JENKS PLANETARIUM

Jenks High School Campus
 205 East B Street, Jenks

TICKETS

\$5 online or \$7 at the door
 Purchase online at jenkscommunityed.com
 or call 918-298-0340

2018 [Go to Show Schedule](#)

Then click the Date Column to sort them by show date



Explore the night sky with engaging, awe-inspiring shows at the Jenks Planetarium. The 50-foot dome provides the ultimate screen for seeing planets up close, flying to distant galaxies, and even rediscovering our own earth in ways never thought possible.



CLASSIC COLLECTORS QUANTUM 6 TELESCOPE FOR SALE Reduced Price \$ 3,600

Asking price ~~\$3,900~~ for telescope, eyepieces and tripod.
 6 inch aperture f/15 (90in" – 2286 mm focal length)
 Maksutov-Cassegrain – 33% central obstruction – 1/20th wave
 Optics by Cumberland optical in Maryland (same as Questar)

Purchased new 1979 (single owner). Scope is in excellent condition. This is a unique telescope as there were only 288 of these ever manufactured. It is similar to a Questar telescope (considered to be among best amateur scopes of that era). It includes a heavy-duty wedge and a detachable solar filter made by Orion. It takes 1 1/4" and 2" eye pieces and includes a University 55mm 42x, 2" plossl eyepiece, a Meade 26mm, 88x, 2" plossl, and a Brandon 48mm EFL 48x Vernoscope 2" eyepiece. Also heavy duty wedge and tripod.

David Schwartz dlsmsg@cox.net 918-814-3937

You are invited to come join us to learn more about
Astronomy and view the wonderful sights in the night sky.

Check our Events Page of Dates [Link to Events Page](#)



During the school year our club holds a
Monthly General Club meetings at
Jenks Public Schools Planetarium
205 East B St, Jenks, OK
Located North of the intersection of
1st and B St

Meetings begin at 7:00 PM

When you enter the building lobby,
take the elevator to the 3rd floor.

[Click for Google Map Link](#)



Sidewalk Astronomy Night

East side of Bass Pro in Broken Arrow near the lake.
101 Bass Pro Drive, Broken Arrow, OK

[Click Map Link here](#)

On a Saturday evening near the 1st Quarter moon Astronomy Club volunteers set up telescopes to share views of the moon, planets and other bright objects. It's a come and go event where shoppers and restaurant goers get a chance to experience glimpses of the universe with their own eyes.



ASTRONOMY CLUB OBSERVATORY

Located on a hilltop about 25 miles SW of Tulsa
Features: classroom, restroom, dome with 14 inch telescope
and an acre to set up your telescopes.

Weather permitting, we host two types of observing nights.

PUBLIC OBSERVING NIGHT on a Saturday

This event is open to individuals and families.
Club members set up telescope for public viewing.

* Groups need to make separate arrangements.

MEMBERS OBSERVING NIGHT usually on a Friday near new moon
Reserved for club members and their families to allow them to pursue observing projects.

The Observatory is ONLY OPEN for SCHEDULED EVENTS. [Link to Events Page](#)
[Click for Observatory Map](#)

CAUTION: **DO NOT** use **GPS** it will likely send you on some nearly impassible back roads.

ASTRONOMY CLUB OFFICERS:

PRESIDENT – TAMARA GREEN
astrotulsa.pres@gmail.com
VICE PRESIDENT – JERRY CASSITY
astrotulsa.vp@gmail.com
SECRETARY - JOHN NEWTON
astrotulsa.secy@gmail.com
TREASURER - TIM DAVIS
astrotulsa.tres@gmail.com

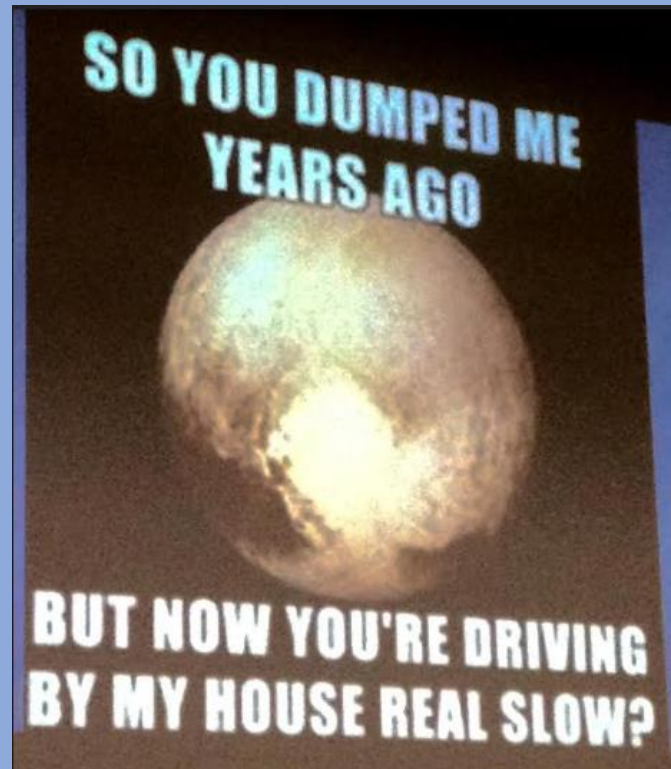
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TERESA DAVIS
JOHN LAND
JAMES LILEY
SHELDON PADAWER
JACOB SHEPHERD
JAMES TAGGART
SKIP WHITEHURST

STAFF:

FACILITIES MANAGER –
JAMES TAGGART
astrotulsa.obs@gmail.com
EDITOR - JOHN LAND
astrotulsa.editor@gmail.com
MEMBERSHIP CHAIR - JOHN LAND
tulsaastrobiz@gmail.com
OBSERVING CHAIRS
OWEN AND TAMARA GREEN
darthnewo@yahoo.com
astrotulsa.pres@gmail.com
SIDEWALK ASTRONOMY –
OWEN GREEN
darthnewo@yahoo.com
PR AND OUTREACH –
OWEN GREEN
darthnewo@yahoo.com
GROUP DIRECTOR – OWEN GREEN
Astrotulsa.outreach@gmail.com
NIGHT SKY NETWORK –
Open Position
WEBMASTER JENNIFER JONES

A final bit of humor from renowned Astronomer, Author and Comet hunter **DAVID LEVY** commenting on the New Horizons mission to Pluto at MidStates Convention in Springdale, AR



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