

ASTRONOMY CLUB



OF TULSA

OBSERVER

OCTOBER 2019

Bringing Stars to the eyes of Tulsa since 1937

Editor – John Land



NGC 6960 – the “Witches Broom” is part of the Veil Nebular in Cygnus. Member Michael Blaylock at the 2016 Okie-Tex star party. The image is an integration of Twenty 15 min exposures. Taken with his 102 mm Williams Optics refractor using his SBIG ST-8300C imaging camera.

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Astronomy Club Events

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

Be sure to check the Website for Weather Cancellations before coming.

OCTOBER				
GENERAL MEETING	1ST Q	FRI, OCT 4	7:00 PM	JENKS PLANETARIUM
SIDEWALK ASTRONOMY	1ST Q	SAT, OCT 5	6:30 PM	BASS PRO
PUBLIC NIGHT	3rd Q	SAT, OCT 19	6:15 PM	OBSERVATORY
MEMBERS' NIGHT	New	FRI, OCT 25	6:30 PM	OBSERVATORY
MEMBERS' NIGHT BACKUP	New	SAT, OCT 26	6:30 PM	OBSERVATORY
NOVEMBER				
ANNUAL DINNER MEETING	1ST Q	SAT, NOV 2	5:30 PM	JENKS PLANETARIUM
DAYLIGHT SAVING TIME ENDS		SUN, NOV 3		
SIDEWALK ASTRONOMY	Full	SAT, NOV 9	4:30 PM	BASS PRO
Mercury Solar Transit		MON, NOV 11	7:00:00 AM to Noon	
PUBLIC NIGHT	3rd Q	SAT, NOV 23	4:30 PM	OBSERVATORY
MEMBERS' NIGHT	New	FRI, NOV 29	5:00 PM	OBSERVATORY
MEMBERS' BACKUP NIGHT	New	SAT, NOV 30	5:00 PM	OBSERVATORY
DECEMBER				
GENERAL MEETING		FRI, DEC 6	7:00 PM	JENKS PLANETARIUM
SIDEWALK ASTRONOMY		SAT, DEC 7	4:00 PM	BASS PRO
PUBLIC NIGHT		SAT, DEC 21	4:30 PM	OBSERVATORY
WINTER SOLSTICE		SUN, DEC 22		
MEMBERS' NIGHT		FRI, DEC 27	5:15 AM	OBSERVATORY
MEMBERS' BACKUP NIGHT		SAT, DEC 28	5:15 PM	OBSERVATORY

Our Annual Members Club dinner is Saturday Nov 2nd at 5:30 PM

Banquet hall of the Jenks Planetarium building. Cost \$ 12 per Adult (\$ 6 for 12 and under)

Please RSVP by Oct 25 so that we can know how many to prepare for.

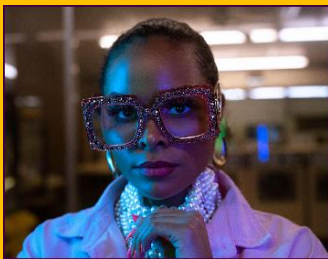
Contact John Newton at astrotulsa.tres@gmail.com

The Club will be catering in the main dishes and drinks. Members are asked to volunteer to bring desserts. FYI there is no kitchen to prepare dishes in so whatever you bring needs to be prepared in advance. If possible - Please let us know what you plan to bring.

DOOR PRIZE RAFFLE TICKETS available at our Oct 4 and Nov 2 meetings.



Our Treasurer John Newton has come up with some excellent items for the raffle. Among the items are some very nice Apollo 11 Commemorative Silver Dollars in a nice display case from the US Mint. Also a \$ 100 gift certificate to Hobby Town here in Tulsa as well as some other great items. You may begin purchasing tickets at our Oct 4 meeting. **Prices are One for \$ 2 -- Three for \$ 5 and 7 for \$ 10** Proceeds are to be used toward buying the club a nice Solar Scope



Our Guest Speaker for Oct 4th is Cheyenne Smith

Cheyenne is a communicator by day and astronomer by night. Cheyenne has always had an interest in art and a love for science and believes they both must coexist for the world to operate. Cheyenne's interest in creative writing and interpersonal development encouraged her to pursue a B.A. in Journalism and Mass Communications with a focus in public relations from the University of Oklahoma. Her love for the cosmos has led her to serve as a Solar System Ambassador for NASA's Jet Propulsion Laboratory. As an

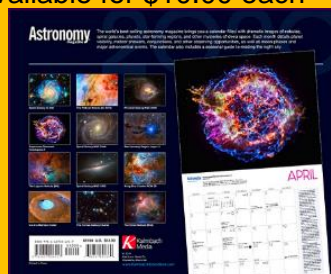
ambassador Cheyenne's topic, *Minorities On A Mission: Life Through Our Cosmic Address*, addresses minorities in the field of astronomy and the umbrella of astronomy and its applications to astrobiology. What Cheyenne loves most about the Tulsa Artist Fellowship is that it's creating opportunities not only for the artists who come to Tulsa to practice but also for job seekers who want to be in a creative industry within an economical location. Cheyenne is a proud Earthling who loves the planet, Paris, faux fur, Royal Albert tea sets and daydreaming about picnics on the prairie.

Needing some help to understand the sky better and improve your observing skills?

The Astronomical League has several Observing Certificate programs that range from Novice level to Advanced observers. At the recent Okie-Tex Star Party a number of observers got together to discuss ideas about how to improve the programs. They decided to put together a survey to find out where members might need help filling in the Gaps in their observing skills, in order to develop programs that may help. Please take the time to complete this simple survey to help them understand the needs of our members.

Your input is valuable – Take the Survey at <https://www.surveymonkey.com/r/XB3L9Q8>

A limited number of **2020 Astronomy Magazine Wall Calendars** are here and are now available to be picked up a club meeting. If you would like to reserve one, please email at astrotulsa.tres@gmail.com, and let me know how many you would like. Otherwise, they will be available on a first come, first served basis at our upcoming events. Calendars are available for \$10.00 each



PRESIDENT'S MESSAGE

BY TAMARA GREEN



Hey Y'all,

This is going to be a brief message. As there was much to do to get ready get everything done for the Okie-Tex Star party at the end of September, so I was all in a tizzy getting this ready.

Our elections will be held at the next General Meeting, which will be Friday, October 4 at 7:00 PM at the Jenks Planetarium. IT IS VITALLY IMPORTANT THAT WE HAVE AS MANY FULLY PAID AND ELIGIBLE TO VOTE MEMBERS AS POSSIBLE ATTEND THIS IMPORTANT MEETING, as we need a quorum of at least 20 in order to hold the vote.

Our **Annual Dinner Meeting will be on Saturday, November 2** in the conference room down the hall from the Jenks Planetarium (third floor, Math and Science Building). Treasurer John Newton is polling everyone to see what kind of food we all want, and then we will choose the caterer. Dinner starts at 5:30 PM with food served at 6:00 PM. We will also do a dessert potluck, so you are encouraged to bring a dessert to share. Please make sure, however, that the dessert you bring does not have to be cooked, as there is no kitchen there. We are also going to have a raffle for great door prizes! More details will be coming later.

Volunteers will be needed to help set up and break down too.

Contact me at Astrotulsa.pres@gmail.com if you can help set up.

Was good to see that Tulsa had 29 of our members at Okie-Tex, Owen and I look forward to going every year. And this year we had great skies each night !

Clear Skies,

Tamara Green

Candidates for Club Officers and Board – Elections are Oct 4

We need our members to attend so that we have a Quorum to make the vote official.

Our club cannot exist without member participation & volunteers.

As an added incentive we will begin selling raffle tickets at the meeting to win several nice items.

Drawing will be at the Annual Club dinner Nov. 2nd.



Tamara Green - President We first met Tamara and husband Owen at our Aug 2003 Mars Opposition watch held near at Mohawk park. They joined the club in May 2004 and have been active ever since. Tamara has been President this past year. She has also served as Secretary from 2010 – 2014; President from 2007-2008; and as Board-Member-At-Large from 2005-late 2006. Has served two terms as Vice President and president part of 2006. As well as several years as Newsletter Editor (and Observing Co-Chair with husband Owen Green. They also host our SideWalk Astronomy nights.

Her Likes are: Cats, astronomy, beading and other crafting and artsy-fartsy things, collecting fountain pens, authentic Mexican food, sushi, wine, cocktails, coffee and Owen. Not necessarily in that order. Hopes to see the club continue to do some neat things in the coming year!



Daniel Smith – Vice President

We are happy to announce that Daniel Smith has offered to be a candidate for Vice President. Daniel brings a bright spark of youthful enthusiasm to our club. He also enjoys sharing his knowledge with others and takes some wonderful sky photos.

My name is Daniel Smith. I am the pastor of Parkview Missionary Baptist Church in Chouteau, OK. I also am a volunteer firefighter and chaplain for the Chouteau Fire Department. I have a wife, Kati, and three girls: Zoe 9, Lily 6, and Rosie 3. In addition to my membership of the Astronomy Club of Tulsa, I also enjoy exploring caves. I am also a member of the National Speleological Society and the Tulsa and Boston Mts. Grotto caving clubs.

Astronomy has captured my interest since I was about 10 when I first saw the comet Hale-Bopp in 1997. Unfortunately, I always lived in heavily light polluted cities for most of my life. I took an astronomy course as a freshman at the University of Central Oklahoma, during which I saw Jupiter for the first time through a Dobsonian telescope. 10 years later I moved out to the country with class 4 Bortle dark skies. I used some cheap binoculars to look up one night and was amazed at what I saw. This soon led me to purchase my first telescope, an Orion 8 inch dob. It was all downhill from there into the astronomy money pit, but worth every penny spent as long as my wife doesn't find out how much. 😊

The Astronomy Club of Tulsa has been a wonderful thing for me to be a part of. Most of my family and friends had no interest standing outside in a death cloud of humidity and mosquitos to look through a telescope with me, so for the first couple years I did it alone. When I moved to the Tulsa area, the club showed me that there are other people in the world that share my hobby. I greatly enjoyed this year at Okie-Tex. I was blessed to be able to bring my oldest daughter, 9 yr. old Zoe, with me. I am glad that many of you were so friendly with her. This warm friendliness with me as well as with Zoe is what I love about our club and is the key to our continuing success.

I realize that I don't have nearly as much time in astronomy as many of you, but I have learned much recently, and much of that learning is because many of you have been more than happy to help me. I would be pleased to be the vice-president of the club if you would have me. I want to help our club grow by being a servant to you all, and by meeting the needs of our members and our surrounding communities. I appreciate the welcome and knowledge that I have been given by the club, and I would love to give back.



John Newton – TEASURER

John has done an outstanding job serving the club as treasurer this past year. Prior to that he served faithfully as secretary for two years. In addition to his wise counsel on the board he has pitched in to assist with several club projects including this winter's plumbing repairs at the observatory.

John enjoys volunteering his time, energy and support to the club whenever possible. With this banner milestone year for manned-space missions John has authored several great articles about the history of space exploration in our newsletters. Hopefully you have read several of them. They are available under the ABOUT TAB on our website.

A little about me. While in college I studied business and electrical engineering. To date, my professional background includes 35 years in the telecommunications industry. I started out in voice and data transmission services over copper facilities. As the communications industry evolved, I now apply my technical knowledge of laser light transmissions over a fiber optic medium for telecom providers globally. Also, in my college years, I took both solar and stellar astronomy classes which unlocked my interest in astronomy. The club and its members have been a remarkable resource for expanding my knowledge on astronomy while having access to a variety of optical instruments to use and satisfy my curiosity of the heavens.

The Office of club Secretary is still open at the time of this publication.

We are pleased to have two new candidates for board this year.



Michael Blaylock- Board

Michael was born in Memphis, TN but grew up in Winter Park, Co. He moved to Tulsa in 1991 from Dallas. He is now retired having been in the printing business for many years. His other hobbies : Woodworking, N-Scale Railroad Modeling

He says " I got into astronomy around 2005 and joined the club around 2007 or 8? I started with Binoculars for the first year. First Rick Walker took me under his wings and basically showed me which end of the binoculars to look through. Steve Chapman took up mentoring after that. My next-door neighbor gave me a Meade 4" Reflector on a really, really bad department store GoTo Equatorial mount.

That started me into ATM (Amateur Telescope Making) as I converted the scope to a DOB mount. Had lots of fun building mounts, Binocular parallel-o-gram mount, cases, etc. Steve Chapman joined in on a lot of these building sessions.

After using the 4" for about a year, I of course caught a mild case of aperture fever. That led to buying the then new to the market Orion 14" truss tube Dob. I wanted more mirror but liked the practicality of no ladder needed.

My first Okie-Tex was in 2010. During that year's star party, I became interested in the idea of imaging. Being in the printing trade and growing up in my Aunt and Uncles portrait studio, it seemed only natural. Also, being a bit of a closet geek, the technical aspect and somewhat steep learning curve appealed to me. I'm still imaging and still learning.



Dennis Berney – Board

Dennis has been a member since 2015 and has volunteered at many of the club's events. He often shares views of the sky through his night vision and infrared viewing devices. Lately Dennis has been helping with security at our observatory events.

Born and raised in Southern California. Back then, the San Fernando Valley was mainly farms and horse ranches. Great place to be brought up. Lots of adventurous activities in those days.

Two types of industries were the main sources of employment in this part of the country. Movie (entertainment) and Aerospace. I chose Aerospace. I was hired as an Electrical Engineer for Lockheed Aircraft, Burbank CA.

L-1011 Tri Star Program. Military... I was drafted into the U.S. Army in January 1970 and served in an Engineering unit assigned to Fort Shafter, Hawaii.

Astronomy interests... During the late 50's and early 60's the L.A. school system would bus the students out to the Griffith Park Observatory from time to time, I was always fascinated with astronomy and having the opportunity to look through their main telescope was high on my list of activities when I got the chance to visit this historic location. Relocated to Oklahoma after the Northridge earthquake in 1994 and retired in 2012.

After four years of setting on the sideline, I figured it was about time to get more active in the club. I was asked if I would be interested in being more involved... I said OK!

Returning Candidates



Richard Brady – Board

Richard has been a member of the club since 2012. He has been a regular volunteer at public nights, Sidewalk Astronomy nights and other club events. He also assists with running the Dome Telescope on Public Nights. He has served on the board, as well as the offices of President for 3 years and as vice president. Under Richard's leadership the club put a new roof on the observatory, repainted the classroom and made improvements on the dome. He has worked with Dan Zielinski from the Jenks planetarium to create a greater involvement with the club.



Jerry Cassity – Board

My first experience with the Astronomy Club of Tulsa, was attending a Public Night at the Observatory where club members showed me the rings of Saturn, Several Nebulas, and other deep sky objects. Before I left that night, I knew I wanted to become a member and obtain a telescope. A few months later, I had my scope. I've been an active member ever since attending Member's Nights, Public Nights and Special Events. I served for a year on the Board of Directors and a year as Vice President. It's been a pleasure being a part of ACT and I look forward to the continued advancement of our club. I particularly enjoy the Public Events and love hearing the exclamations from those seeing celestial objects through a telescope

for the first time. I understand the value our club has to its members and to the general public.



John Land – Board - Newsletter Editor

Having grown up along with the Space Age in the 50's and 60's, I have always been fascinated with space. I was blessed to have a mother with a keen scientific mind who encouraged my curiosity about the many wonders of God's creations. I discovered the Tulsa Club in the spring of 1977 and used to drive 70 miles from Okemah to attend their meetings. I had some great mentors such as Nick Pottorf, who took the time to guide me on my journey of knowledge to discover the treasures of the night sky. One of my greatest joys as a member of the club is to pass that legacy on to others.

I accepted a science teaching position in the rapidly growing community of Broken Arrow in 1978. Following the Solar Eclipse of Feb 26, 1979, I was asked to start an Astronomy class that fall. For 28 years I was blessed to be able to share my passion for the wonders of God's universe with several thousand students as well as my fellow teachers. I have served in various

leadership capacities in the club including observing chair, president, treasurer, board member and presently as newsletter editor.



James Taggart – Board and Observatory manager

James has been a tremendous addition to our club. He lives just a few miles from the observatory site which greatly adds to the security of the facility. In 2014 James took over as Observatory manager and has done a fantastic job maintaining the grounds and facility. During this time, he negotiated the contracts for the new observatory roof, has installed an Internet Wi-Fi system for the observing grounds and is currently working on a new wireless security system. 2018 started out with a major project to locate and repair a plumbing leak under the observatory slab. James and others spent many hours of hard labor in January saving the club a great deal of money in plumber fees.

He also directed the completion of the skirting on the observatory dome and repainting and sealing the floor and steps. James works as a technology

architect for IBM designing and testing new systems. For 2019 he is exploring ways to make the club's website more modern for mobile devices.



Skip Whitehurst – Board

Skip was been a lifelong astronomy enthusiast. His father taught astronomy and Skip began studying the stars with his 6 inch refractor as a teen. He became a physicist and has worked in the both the geophysics and aerospace industries. He was a member of the Tulsa club in the early 90's and rejoined in 2011. Skip joined the board in 2014 and has volunteered with public nights, Sidewalk Astronomy nights and working on the maintenance of the observatory. His knowledge of electronics, computers and engineering details are a great asset to our club.



Transit of Mercury - Nov. 11, 2019
6:37 AM to 12:04 PM CST
Sunrise is about 6:56 AM CST

On Monday November 11 the planet Mercury will pass directly in front of the sun. This event is called a solar transit and occurs when the planet crosses an intersection (Node) of its orbit as it crosses the plane of Earth's orbit (Ecliptic) A transit is only visible when the Earth and planet are directly in line with a node. – Inferior conjunction. Diagram details at <http://www.eclipsewise.com/oh/tm2019.html>

See excretes below in italics

See a Full Animation –

<https://www.shadowandsubstance.com/?p=142>

Details of Sun's Position as seen from Tulsa during the Transit

<https://www.timeanddate.com/eclipse/in/usa/tulsa>

“The transit or passage of a planet across the face of the Sun is a relatively rare occurrence. As seen from Earth, only transits of Mercury and Venus are possible. There are approximately 13 transits of Mercury each century. In comparison, transits of Venus occur in pairs with more than a century separating each pair. The next Mercury Transits are in Nov 2032 & 2039.

During the present era, transits of Mercury fall within several days of May 8 and November 10. Since Mercury's orbit is inclined seven degrees to Earth's, it intersects the ecliptic at two points or nodes, which cross the Sun each year on those dates. If Mercury passes through inferior conjunction at that time, a transit will occur. During November transits, Mercury is near perihelion and exhibits an apparent disk only 10 arc-seconds in diameter. (For comparison – the disk of Jupiter viewed in a telescope is about 42” across) November transits recur at intervals of 7, 13, or 33 years while May transits recur only over the latter two intervals.”



SAFELY OBSERVING A SOLAR TRANSIT

Since you are observing the Sun to do so safety you must have **SAFE FULL SPECTRUM FRONT SOLAR** filter for your telescopes or binoculars. Due to the small size of Mercury the Eclipse Glasses you may have used for the eclipse of 2017 will not be enough.

You'll need a Full Spectrum Solar Filter that attaches snugly to the **FRONT** of a telescope or binoculars. (*NOT one that screws in an eyepiece that can overheat and shatter*)

Filters can be purchased commercially, or you can build one yourself.

Details to **BUILD A SAFE SOLAR FILTER** for your telescope, binoculars or camera Can be see at and article in our March 2017 newsletter.

http://astrotulsa.com/CMS_Files/201703.pdf

These are made from a specially coated material that reflects **99.99 %** of the sun's light plus Infrared and Ultraviolet energy.

John Land has a limited amount of this material available
Contact him at Tulsaastrobiz@gmail.com

TREASURER'S and MEMBERSHIP Report

BY JOHN NEWTON



As **Sep. 18, 2019**, the Astronomy Club of Tulsa has **155 members. Including 32 new members.** We welcome our newest member starting this month **Jim Danforth.** Hello and welcome to ACT! We look forward in seeing you at our meetings and gatherings.

Last Year 2018 on Sept 30 we had 180 members – with 44 new members

Note: 2018 saw an influx of members due to the 2017 Solar Eclipse

Accounts as of September 18, 2019 -

Checking: \$ 6,276.38

Savings: \$ 5,781.87

Investments: \$ 24,557.26

Accounts as of September 30, 2018

Checking: \$ 4,427.97

Savings: \$ 5,779.71

Investments: \$ 23,343.24

(Value tends to fluctuate with markets).

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. Details - Contact their websites

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.

You may renew Sky & Telescope subscriptions directly by calling their number -**be sure to ask for the club rate.**



JENKS PLANETARIUM

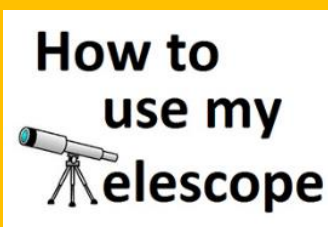
Jenks High School Campus
205 East B Street, Jenks

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

2019 See the [Fall Planetarium 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.



SATURDAY OCT 5 8:00 TO 9:00 pm
Register now [Click Link Here](#)

Do you have a telescope but don't get it out because it doesn't seem to work? Bring it to the planetarium this night and together we will learn about the telescope and how it operates. We will then take them to the roof-top observation deck and practice our new skills! This show is weather permitting.

Please dress for the weather. The target audience for How to Use My Telescope is ages 6 years to adult. This show and observing session is held at the Jenks Planetarium, Jenks High School,

Planets Line up for October

A 5.7 day old moon makes a close conjunction with Jupiter on Oct 3rd and the 1st quarter moon visits Saturn on Oct 5th. Mercury, Venus and a thin 2 day old moon have a tight conjunction just after sunset on Oct 29. You'll probably need a pair of binoculars and a clear SW horizon to find them. The moon will join Jupiter for a "spooky" visit on Halloween and pay a visit to Saturn's right on Nov 1

October is a great month for Meteors – Three meteor showers are active in October. The sun sets earlier each night and hopefully the temperature cools off also. We saw several meteors at the recent 2019 Okie-Tex Star party in western Okla. under pristine dark skies.

The **annual Draconid meteor shower** which reaches its peak on the night of Oct 6-10 in dark skies. The Draconid shower normally produces few bright meteors during evening hours so you don't have to stay up late to catch one. Just stay alert while you are outside observing other things. The constellation of Draco sets above the handle of the Big Dipper in the direction of the bright star Vega. Look for it in the NW sky. <http://earthsky.org/astronomy-essentials/everything-you-need-to-know-draconid-meteor-shower>

We'll be able to observe two other meteor showers this month: the Orionids and the Southern Taurids. Although both will have low rates of meteors, they'll be visible in the same part of the sky.

The **Orionids peak** on Oct. 21, but they are active from Oct. 2 to Nov 7. Start looking at about 10 p.m. and you can continue to look until 5 a.m. With the bright moonlight you may see only five to 10 swift and faint Orionids per hour. https://in-the-sky.org/news.php?id=20191021_10_100

If you see a slow, bright meteor, that's from the **Taurid meteor** shower. The Taurids radiate from the nearby constellation Taurus, the Bull. Taurids are active from Sept. 10 through Nov. 20, so you may see both a slow Taurid and a fast Orionid piercing your sky this month. You'll be lucky to see five Taurids per hour on the peak night of Oct. 10. <https://earthsky.org/?p=50>



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

Find Strange Uranus in Aries

David Prosper

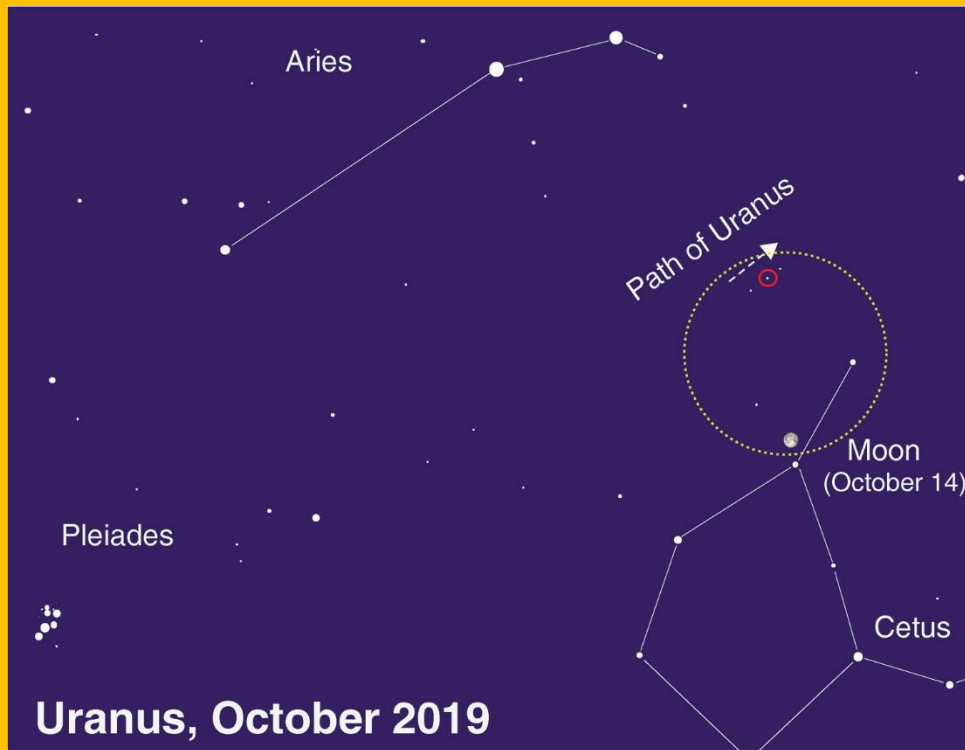
Most of the planets in our solar system are bright and easily spotted in our night skies. The exceptions are the ice giant planets: Uranus and Neptune. These worlds are so distant and dim that binoculars or telescopes are almost always needed to see them. A great time to search for Uranus is during its opposition on October 28, since the planet is up almost the entire night and at its brightest for the year.

Search for Uranus in the space beneath the stars of Aries the Ram and above Cetus the Whale. These constellations are found west of more prominent Taurus the Bull and Pleiades star cluster. You can also use the Moon as a guide! Uranus will be just a few degrees north of the Moon the night of October 14, close enough to fit both objects into the same binocular field of view. However, it will be much easier to see dim Uranus by moving the bright Moon just out of sight. If you're using a telescope, zoom in as much as possible once you find Uranus; 100x magnification and greater will reveal its small greenish disc, while background stars will remain points.

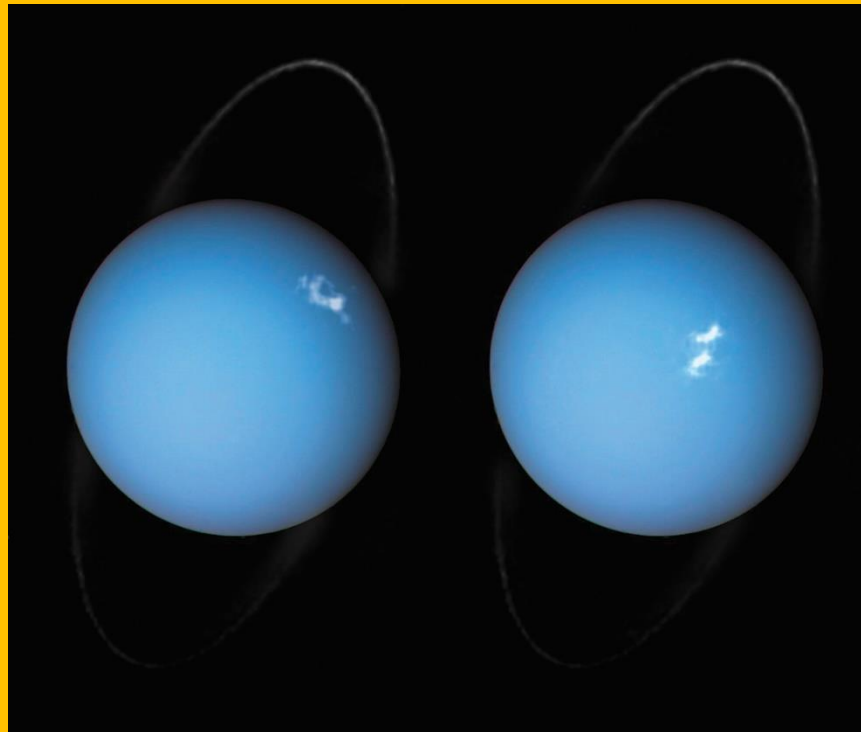
Try this observing trick from a dark sky location. Find Uranus with your telescope or binoculars, then look with your unaided eyes at the patch of sky where your equipment is aimed. Do you see a faint star where Uranus should be? That's not a star; you're actually seeing Uranus with your naked eye! The ice giant is just bright enough near opposition - magnitude 5.7 - to be visible to observers under clear dark skies. It's easier to see this ghostly planet unaided after first using an instrument to spot it, sort of like "training wheels" for your eyes. Try this technique with other objects as you observe, and you'll be amazed at what your eyes can pick out.

By the way, you've spotted the first planet discovered in the modern era! William Herschel discovered Uranus via telescope in 1781, and Johan Bode confirmed its status as a planet two years later. NASA's Voyager 2 is the only spacecraft to visit this strange world, with a brief flyby in 1986. It revealed a strange, severely tilted planetary system possessing faint dark rings, dozens of moons, and eerily featureless cloud tops. Subsequent observations of Uranus from powerful telescopes like Hubble and Keck showed its blank face was temporary, as powerful storms were spotted, caused by dramatic seasonal changes during its 84-year orbit. Uranus's wildly variable seasons result from a massive collision billions of years ago that tipped the planet to its side.

Discover more about NASA's current and future missions of exploration of the distant solar system and beyond at nasa.gov



Caption: The path of Uranus in October is indicated by an arrow; its position on October 14 is circled. The wide dashed circle approximates the field of view from binoculars or a finderscope. Image created with assistance from Stellarium.



Caption: Composite images taken of Uranus in 2012 and 2014 by the Hubble Space Telescope, showcasing its rings and auroras. More at bit.ly/uranusauroras Credit: ESA/Hubble & NASA, L. Lamy / Observatoire de Paris

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.

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NIGHT SKY NETWORK –
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WEBMASTER JENNIFER JONES

Solar Eclipse Wisdom

Nine year old Jimmy came home from school and was excited about his science lesson that day.

He Asked ***“Dad, Can you explain what a Solar Eclipse is”***

Dad after puzzling his answer for awhile replied in a dead-panned voice.
“ No Sun ”

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