



OBSERVER

SEPTEMBER 2024

*Bringing Stars to the eyes of Tulsa
since 1937* Editor – John Land



Stephan's Quintet is a group of 5 interacting galaxies located in Pegasus

Mike Blaylock took this image at the ACT observatory using his Altair RC250-TT telescope mounted on his Losmandy G11 Camera - SBIG 8300m with filter wheel & OAG Integration Time - 8.5 hrs total LRGB Processed with Pixinsight

The September 2024 Sky & Telescope has an extensive article on the quintet. It was discovered Sept, 27, 1873 by French astronomer, Jean Marie Edouard Stephan

Starting with the large galaxy at the 3 O'Clock position going clockwise are:
NGC 7320 - NGC 7319 - NGC 7318 A & B – The small galaxy above is NGC 7317 & below NGC 7320C – 285 LY Their distances in Million Light years are NGC 7317 – 314 Mly, 7318 A– 317 Mly, 7318 B- 275 Mly, 7319 – 321 Mly, 7320 – 37 Mly, 7320 C – 285 Mly
Their magnitudes range from 7320 @ 12.6 mag to 7320 1520 C @ 15.5

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Stargazing Nights and Observatory Nights

Our GUESTS & Members nights are open to anyone. We do ask guests to try to RSVP.
Large groups need to make separate arrangements.

Members Only Nights are Open to members and their family
Details, Times and Direction Maps are posted on our Website

<https://www.astrotulsa.com/events>



Guest and member Observatory nights

Come enjoy an evening of star gazing at our observatory
located in dark rural skies SW of Tulsa
See details and directions on a [Website Events Page](#)
Guests are requested to RSVP

Friday Oct 26 - 6:00 PM Guest & Members Observatory Night

Friday Sept 6 - 7:15 PM Guest & Members Observatory Night

Astronomy Club Members Nights

Our members are invited to come work on their observing goals, do some Astro imaging and share ideas.

Friday Aug 30 - 7:30 PM

Friday Oct 4 - 6:30 PM

If a Friday event must be cancelled due to weather, we will attempt to try again on Saturday at the same time.

- Always check the website for event updates



Friday Sept 20 – 7:00 PM

In person Astronomy Club meeting.
Open to Guests and Members

Jenks High School Planetarium
105 East B St, Jenks, OK

FRIDAY SEPT 20 @ 7:00 pm will be our first fall in town Astronomy Club Meeting

Our program will feature observing chairman **Brad Young** talking about his new book – **“Take What the Night Gives You”** and presenting an abridged version of a **Citizen Science** presentation he will be doing at the fall Okie-Tex Star Party.



There are many opportunities for amateurs to make meaningful contributions to expanding knowledge through Citizen Science. The presentation on Citizen Science is straightforward, but I hope to give you some ideas on why you should do it, how to select a program that is right for you, and review a few of the groups that I am involved with, for example. There will also be information on resources you can use to help complete your observations.

Citizen Science differs from doing observing programs in that there's often no endpoint. A few of the programs are connected to Astronomical League Observing programs. However, you can make useful and rewarding contributions without worrying about specific numbers or types of input from you. In fact, part of the talk will be on not only how to choose, but when to stop doing specific programs.

If you are a regular reader of our Astronomy Club Newsletters, I'm sure you have enjoyed reading many of Brad's articles. A quick synopsis of his presentation on the book is that it is an anthology of many of the articles he has contributed to the newsletter, but it also includes new information and chapters to round out this subject matter. What he hopes to achieve with it is to relate his journey in astronomy as a lifelong science hobby.



Brad will be holding a book signing at Gardener's Used Book Store

Saturday August 31st from 3:00 to 6:00 PM

See a book preview and ordering information at

[Amazon Link here](#)

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The 2025 Astronomy Wall Calendars have arrived.

A limited number will be available for \$ 12 each
at our Sept 20 & Oct 18 Jenks meetings.
Contact our treasurer to reserve yours.

Email astrotulsa.tres@gmail.com with your name, email and number ordered

Each month has a stunning image along with information about astronomy events that month and interesting bits of astronomy history. There is ample space for you to write in your notes.

Reserve the Date November 9 for our annual club dinner !



Women in Astronomy Brunch – Sat Sept 7 - 10:30 AM

A brunch for women or friends who love learning about the stars.
We will talk about the Okie-Tex Star Party, What's up in the September Sky
and the much-anticipated outburst of the T Coronae Borealis star.
Location: Mom's Diner 4101 S Mingo (SE corner at 41st and Mingo).
Watch for an email ! Or Contact Cathy at astrotulsa.tres@gmail.com

OKIE-TEX Registration closing soon - Deadline Sept 7

OKIE-TEX STAR PARTY 41 is coming !! <http://www.okie-tex.com>

Friday Sept 27 to Saturday Oct 5

Get your registrations in by Sept 7 Meals must be prepaid by Sept 7 !!
Nearest café is 34 miles away !!



Each fall amateur astronomers from all over the country gather in the western Oklahoma Panhandle to enjoy a weeklong “Star Feast” under some of the darkest Bortle 1 sky on the planet. It’s a memory you will cherish for a lifetime and yearn to go again.

See Okie-Tex pages in
[Oct 2022 Newsletter](#)

President's Message

Don Bradford



Summer is almost over. I hope you had an enjoyable and fruitful summer. On a personal note, I have continued to enjoy meeting new members and learning from them as well as from older members. The exciting thing I have learned is that our club has a wealth of knowledge and expertise somewhat hidden in the membership. We have members with significant backgrounds in engineering, science, astronomy, cosmology, observing programs, and just about any other field which you can find both interesting and helpful in your growth in this hobby. The trick is putting people together so that all our interests and expertise can be shared. I have learned that most members like to share their knowledge and experience with others, and indeed have fun doing it.

A perfect example is the “Equipment Help” events we had recently where members with new or unfamiliar astronomy equipment met at one of the city parks to get help from experienced members. We had as many experienced members volunteer to help as we had members coming for help, and everyone enjoyed the sharing. We will have more of those events in the future. Back to my personal note, I have been trying to learn a bit about astrophotography including learning PixInsight (the comprehensive processing software). As expected, there are experienced members eager to share, and I have taken advantage of that, by email, catching them at observing nights, or any way I can to get help. In essence (although I didn’t recognize it at the time), by reaching out for help I established my own personal “Special Interest Group”. Among other things I have learned more details about PixInsight and new developments in the software that permit easier and better post processing so that I have been able to re-process images I have previously taken and discover detail that was imbedded in them that my previous (inept) processing had failed to uncover.

So, to continue that process I am going to expand “my SIG” to include anyone who wants to participate, either on the experienced side or the newbie/learning side. I personally have plenty to learn, but I also have a little knowledge that I could share. That is my personal philosophy that I have discovered in myself from being a member of the club: “I’m not ashamed for people to know that I don’t know a lot of things, but I am happy to share what little I do know”. If you want to participate in this small effort, let me know and we will figure out ways to meet and share. And if you have subjects you want to explore, start your own SIG. It’s as easy as contacting another member.

As we enter the Fall and cooler weather, remember that your officers are eager to hear your suggestions and answer your questions. Read the Newsletter and use the “Contacts” feature of the website. I look forward to seeing you at future events and discussing your specific interests.

“Bringing Stars to the Eyes of Tulsa since 1937”
Don Bradford - President

2024 Astronomical League Convention Report by Debra Chapman

Steve and I attended ALCON 2024 held July 17-20 in Overland Park, KS. This year's theme was "*Stars And All That Jazz!*" I couldn't wait to find out the connection between stars and jazz. The last night of the convention, the speaker at the banquet, Dr. Stephon Alexander, a Brown University professor of physics and astronomy, gave a fabulous presentation! By using his saxophone and a few visual aids, he explained the scientific and mathematical connections between music, math, physics and technology to the universe.

[See his Short YouTube talk.](#)



We thoroughly enjoyed hearing Jen Winter, owner of Daystar Filters, Warrensburg, MO. We were entertained, educated, and impressed! She has seen so many solar eclipses - and traveled to many countries to do so!! Jen shared great advice. In relating her knowledge and eclipse chasing experiences, she reinforced a primary consideration:

"1. Weather 2. Weather ! 3. **Weather ! !"**

Be flexible, be prepared to relocate. Jen encouraged location over duration. No matter how short a viewing time, she reminded us to enjoy the moment.

How exciting it was to hear Dr. David Levy speak about the co-discovery of the comet Shoe-Maker Levy 9 that struck Jupiter in the July 1994. During the tour of the Linda Hall Library, Dr. Levy was thanked for donating his first telescope, and some of his journals. He spoke for a few moments sharing anecdotes and heartfelt memories about his wife Wendee. Dr. Levy is quite personable.



The voice of one of the well-known speakers at ALCON, was familiar to us. Steve and I had watched the TV Series Star Trek: Voyager, and actor Tim Russ's character, Lieutenant Commander Tuvok, was one of our favorites. He said he has liked astronomy since he was a little kid...has telescopes & loves star gazing. Tim is an amateur astronomer, a 30-year member of the Los Angeles Astronomical Society and is involved in community outreach. He was asked if he knew of any other cast members that were stargazers. His answer was "Nope."

We think Tim Russ is a special Star shining brightly among other Stars! ALCON must think so too, because Tim Russ was gifted a life-time ALCON membership.

During our visit we visited the Kansas City Club's Powel Observatory...and the Kansas City Planetarium. Also went to the Linda Hall Library. I won a really nice door prize...a small travel size Solar Scope donated by Jen Winter (who also spoke at the convention). She owns Daystar Filters. One friend Gil & his wife, Kathy, that we know from the Kansas City Club, commented to Steve how that particular door prize (the Solar Scope that I won) really should have been the grand prize because...he owns one like it and knows how very nice it is. Steve set it up in our back yard over this past weekend...and it is very nice.

See you soon under the Stars ! - Debra Chapman



ASTROCON 2025 will take place July 17 – 24
near the dark skies of Bryce Canyon, Utah.

<https://www.astroleague.org/conventions-of-the-astronomical-league/>





Click on these images to links on the Internet



*** The NEW CLEAR OUTSIDE icon above is a link to an extensive site showing cloud cover %,

Seeing, Transparency, Moon Phase, Temp in ° C and many other useful tools

GOT A NEW TELESCOPE? Here are some sites to help you get started with you telescope.

Getting Started with Your New Telescope

<https://skyandtelescope.org/astronomy-news/getting-started-with-your-new-telescope-2/>

Astronomy for Beginners | Night Sky Facts, FAQs & Resources

<https://skyandtelescope.org/astronomy-information/>

What to Know Before Buying a Telescope

<https://skyandtelescope.org/astronomy-news/what-to-know-before-buying-a-telescope/>

See [Website Observation Station](#) for a collection of [Interactive Sky Watching Tools](#)
Moon phases - Sun rise & Set - [Make your own custom interactive sky chart](#) and more
Great website for printable Finder Charts of Solar System objects <https://in-the-sky.org/>

September - Moon Phases - -

New Mon Sept 2 -- **1st Q** Wed Sept 11 -- **Full** Tue Sept 17 -- **3rd Q** -- Tue Sept 24



Partial Lunar Eclipse Tues Sept 17 On the evening of Sept 17 the moon will nick the edge of the Earth's shadow. You'll probably need binoculars or a low power telescope to detect the slight " 9% nibble" The times are

1st Umbra contact is 21:13 Greatest Eclipse 21: 44 Ends 22:16 PM

Keen observers may also detect the full moon is a bit dimmer a hour or so before and after as the moon will enters or emerges from the moon's penumbra – when the sun is partially blocked.

SEPTEMBER PLANETS – **Venus** is still our early evening planet near the western horizon. **Saturn** is now rising near sunset and will be visible all night. It reaches opposition on Sept 7. **Jupiter** and **Mars** are still mainly morning objects. By the end of September, they will rise by 11:00 PM. **Mercury** makes a nice morning appearance in the east reaching maximum elongation Sept 4 but will be at inferior conjunction on Sept 30. **Neptune** is lies about 12 degrees east of Saturn. It rises about 8:30 but will be 9:00 or later for viewing. Opposition is Sept 20. NASA recently released a new color balanced image of Neptune combining both Voyage 2 images from the '89 with Hubble telescope images. [See image here](#) A new study came out recently indicating new understanding of the composition of Uranus and Neptune. [See this Link.](#)



Saturn is about to lose its rings! As Saturn orbits the sun every 15 or 17 years our line of sight from Earth passes through it ring plane. Since they are so very thin, [they seem to disappear](#) of about a week or so. The next such event will happen in late March 2025 (Mar 23rd) Unfortunately it will be difficult to observe as the sun will be only 10 degrees away. Saturn is going through and

number of "Close Conjunctions" with the moon On August 20 observers in the southern hemisphere [saw the moon occult Saturn](#). A similar event will occur here at dawn Sept 17 just seconds before the pair. Other close conjunctions occur Oct 14 and Nov 10.

Other Lunar conjunctions – Venus Set 4, Jupiter Sept 23, Mars Sept 25, and possibly [Comet C/2023 A3](#) (Tsuchinshan-ATLAS) at dawn Sept 30 Stay tuned !!

August 3rd Astronomy Club Picnic

Our club members and families enjoyed a great time of visiting and eating at our annual club picnic. We especially enjoyed meeting several of our newer members. The club ordered a variety of delicious pizzas from Jumpin' Jack's Pizza Shack in Beggs, OK. Also, members brought lots of delicious desserts and other dishes.





Several sunspots were visible in a solar telescope before sunset. Later telescopes began to sprout up on the field awaiting the stars to come out. In addition to the night sky wonders, we were treated to several meteors as well as some satellites and a bright pass of the Chinese space station, Tiangong

Before sunset we enjoyed seeing several sunspots in a solar telescope. As dusk fell telescopes began to sprout up on the field awaiting the stars to come out. In addition to the night sky wonders, we were treated to several meteors as well as some satellites and a bright pass of the Chinese space station, Tiangong.



Treasurer Report Cathy Grounds



As of Aug 27, 2024, we have **185 members**, with **32** new members so far this year. Let's welcome our newest members – Jason Miller, Christina Li, David Tan, Tyanna Trippany, Daniel Maddux, Scott Bratt, Kelsey Trejo, Dan Molster, Casey Grippando, Dan Merritt, Jaydyn McLindon and returning member Maria DeLong

The PayPal link is working great so feel free to use it to join or renew!

Don't forget you can always mail in a check or money order to Astronomy Club of Tulsa, PO Box 470611, Tulsa, Ok 74147, pay cash at any club event or swipe a credit card at our any of our meetings, for which there is a roughly 3% service charge.

Please note that if you are renewing your membership late, you will still be credited a full 12 months going forward from the date you renew!

As always if you have any questions or concerns or if your contact information (email, phone, postal address) has changed please email me: AstroTulsa.Tres@gmail.com

Accounts as of Aug 27th, 2024

Checking: \$ 1,393.45* < * In August the club paid its largest annual expenses
Savings: \$ 2,797.66 of Insurance and Astro League Dues.
Investments: \$ 37,931.83 (Value fluctuates with markets).

You can JOIN or RENEW memberships ONLINE using ANY MAJOR CREDIT CARD or MAILING in your dues with a check. The transactions are processed through PayPal, but you DO NOT need a PayPal account. A modest processing fee is added to online transactions.

Fill out the registration form at <https://www.astrotulsa.com/join>

Membership rates for **2024** 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.

MAGAZINE SUBSCRIPTION RATES 2024 updates

A monthly astronomy magazine subscription is a great way to learn more about many aspects of our hobby. -

Scientific articles, sky events, equipment reviews, imaging techniques and more

Use the links below to make your subscription

To learn about [Sky and Telescope magazine](#) see their home page

Digital \$ 37.05 Print & Digital \$ 45.75 includes a \$ 10 club discount

Use this [Sky & Telescope Subscription Link](#)

To learn about [Astronomy magazine](#) see their home page

Use this [Astronomy Subscription Link](#) Digital \$ 39.95 Print & Digital \$ 49.95 no club discount



This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

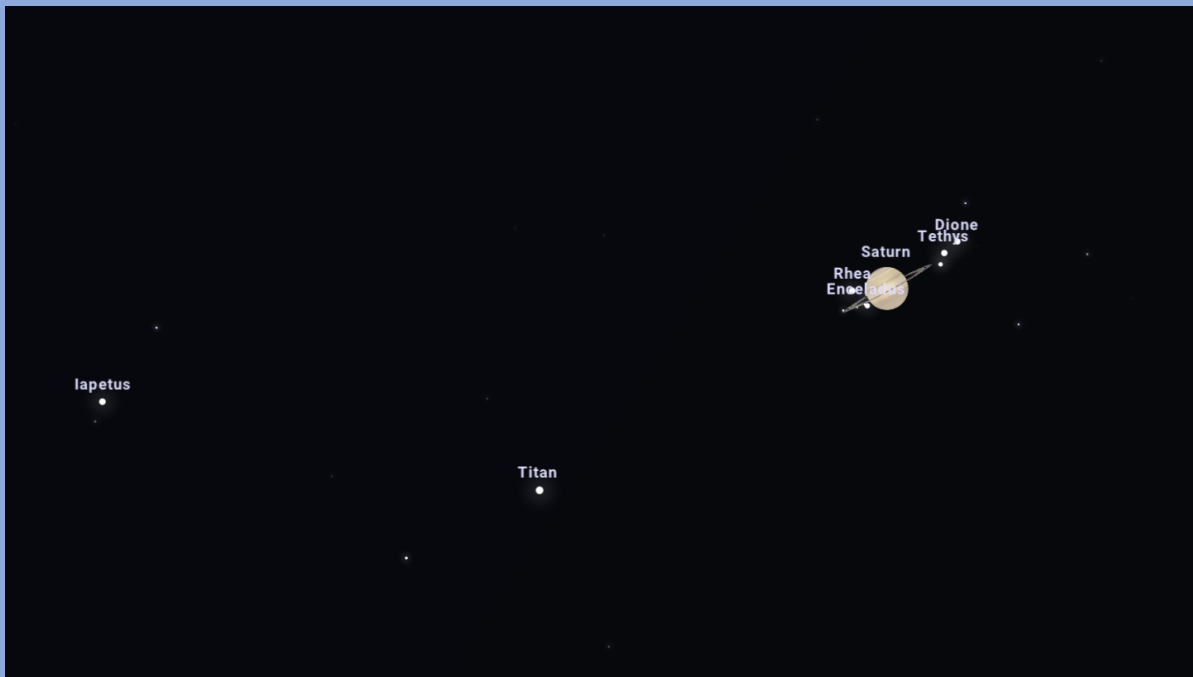
September's Night Sky Notes: Marvelous Moons

By Kat Troche

September brings the gas giants Jupiter and Saturn back into view, along with their satellites. And while we organize celebrations to observe our own Moon this month, be sure to grab a telescope or binoculars to see other moons within our Solar System! We recommend observing these moons (and planets!) when they are at their highest in the night sky, to get the best possible unobstructed views.

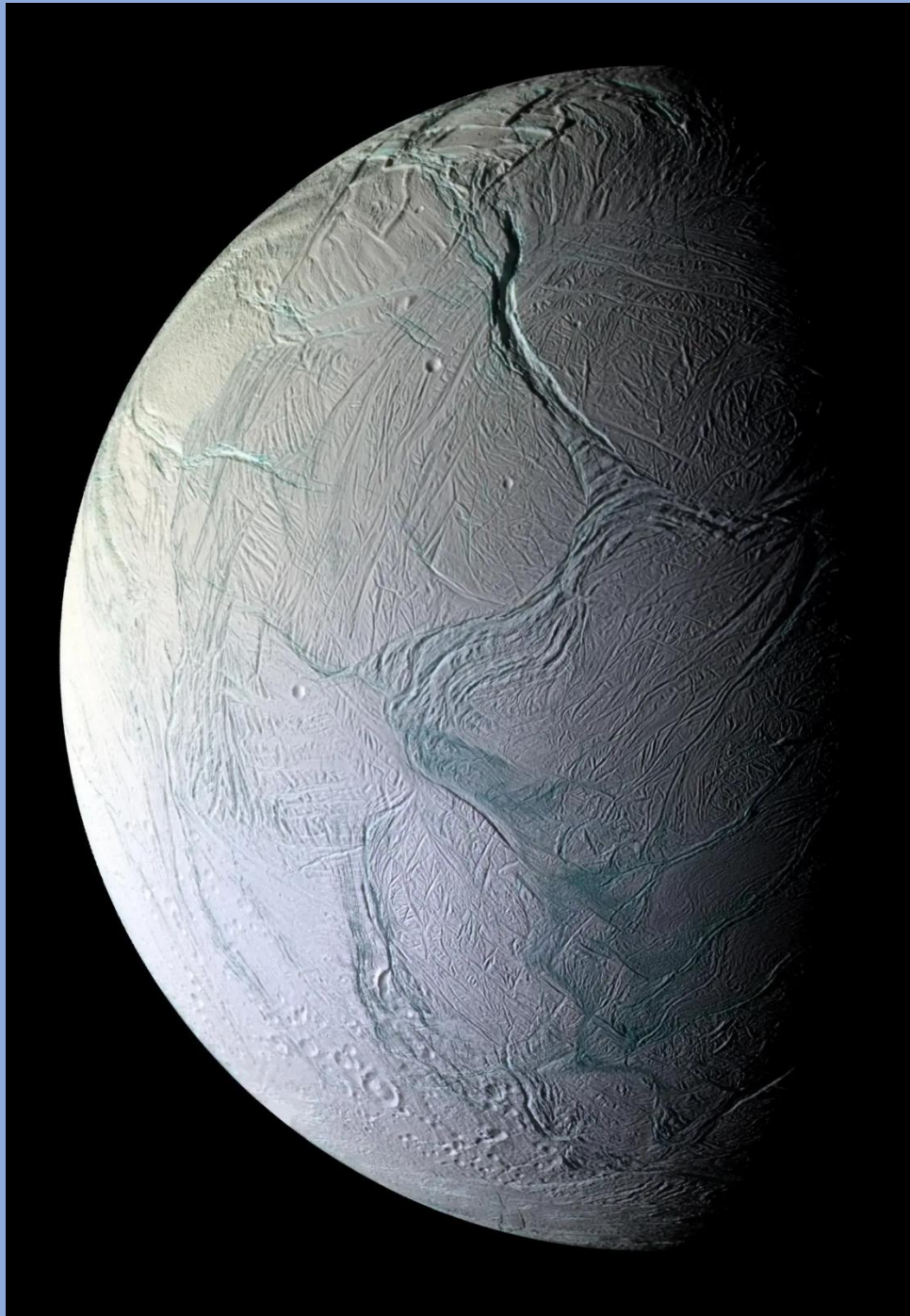
The More the Merrier

As of September 2024, the ringed planet Saturn has 146 identified moons in its orbit. These celestial bodies range in size; the smallest being a few hundred feet across, to Titan, the second largest moon in our solar system.



The Saturnian system along with various moons around the planet Saturn: Iapetus, Titan, Enceladus, Rhea, Tethys, and Dione. Credit: Stellarium Web

Even at nearly 900 million miles away, [Titan](#) can be easily spotted next to Saturn with a 4-inch telescope, under urban and suburban skies, due to its sheer size. With an atmosphere of mostly nitrogen with traces of hydrogen and methane, Titan was briefly explored in 2005 with the [Huygens probe](#) as part of the [Cassini-Huygens mission](#), providing more information about the surface of Titan. NASA's mission [Dragonfly](#) is set to explore the surface of Titan in the 2030s.



This mosaic of Saturn's moon Enceladus was created with images captured by NASA's Cassini spacecraft on Oct. 9, 2008, after the spacecraft came within about 16 miles (25 kilometers) of the surface of Enceladus. Credit: NASA/JPL/Space Science Institute

Saturn's moon [Enceladus](#) was also explored by the Cassini mission, revealing plumes of ice that erupt from below the surface, adding to the brilliance of Saturn's rings. Much like our own Moon, Enceladus remains tidally locked with Saturn, presenting the same side towards its host planet at all times.

The Galilean Gang

The King of the Planets might not have the most moons, but four of Jupiter's 95 moons are definitely the easiest to see with a small pair of binoculars or a small telescope because they form a clear line. The Galilean Moons – Ganymede, Callisto, Io, and Europa – were first discovered in 1610 and they continue to amaze stargazers across the globe.



The Jovian system: Europa, Io, Ganymede, and Callisto. Credit: Stellarium Web

- **Ganymede**: largest moon in our solar system, and larger than the planet Mercury, Ganymede has its own magnetic field and a possible saltwater ocean beneath the surface.
- **Callisto**: this heavily cratered moon is the third largest in our solar system. Although Callisto is the furthest away of the Galilean moons, it only takes 17 days to complete an orbit around Jupiter.
- **Io**: the closest moon and third largest in this system, Io is an extremely active world, due to the push and pull of Jupiter's gravity. The volcanic activity of this rocky world is so intense that it can be seen from some of the largest telescopes here on Earth.
- **Europa**: Jupiter's smallest moon also happens to be the strongest candidate for a liquid ocean beneath the surface. NASA's **Europa Clipper** is set to launch October 2024 and will determine if this moon has conditions suitable to support life. Want to learn more? Rewatch the July 2023 Night Sky Network webinar about Europa Clipper **here**.

Be sure to celebrate **International Observe the Moon Night** here on Earth September 14, 2024, leading up to the super full moon on September 17th! You can learn more about supermoons in our mid-month article on the **Night Sky Network** page!

You are invited to come join us to learn more about Astronomy and view the wonderful sights in the night sky.
Check the **EVENTS** section at <https://www.astrotulsa.com/>



During the school year our club holds a **Monthly General Club meetings** at **Jenks Public Schools Planetarium**
105 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](#)



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.

GUEST OBSERVING NIGHT – RSVP requested

This event is open to our Guests – both individuals and families as well as our regular members. Several of our club members set up telescopes 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**.

Check the **EVENTS** section at <https://www.astrotulsa.com/>

Follow our map directions **DO NOT USE GPS**

Two Options for travel to the observatory

MOSTLY PAVED ROADS – Hwy 75 to 201st St S – through Mounds OK

Most **DIRECT ROUTE** – Hwy 75 to 241st St S – some coarse gravel & dirt roads

Enjoy at Planetarium Show at Jenks High School

JENKS PLANETARIUM



Jenks High School Campus
205 East B Street, Jenks

TICKETS are \$7

See our 2024 Spring Shows
Schedule and ticket purchase
links at

[Shows and Ticket Link](#)

Shows take place on Tuesday evenings
or Saturday mornings
Must purchase tickets online in advance

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PR AND OUTREACH – **Open Position**

GROUP DIRECTOR – **Open Position**

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