

INSIDE THIS ISSUE:

CALENDAR & EVENTS	2
<u>TWO VERY IMPORTANT ANNOUNCEMENTS</u>	3
OKIE-TEX STAR PARTY INFO	4
ELDORADO STAR PARTY INFO	5
PRESIDENT'S MESSAGE	6
TREASURER'S AND MEMBERSHIP REPORT	7
NASA'S "THE SPACE PLACE" NEWSLETTER (Sep/Oct)	9
WHERE WE MEET	11
OFFICERS, BOARD & STAFF	13



ASTRONOMY CLUB OF TULSA

OBSERVER

SEPTEMBER 2015

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THE ASTRONOMY CLUB TULSA
IS A PROUD MEMBER OF







THE ASTRONOMICAL LEAGUE

PHOTOS: A collection of pictures taken at Okie-Tex Star Party 2014, by Tamara Green.

SEPTEMBER 2015

MOON PHASES AND HOLIDAYS:

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5 
6	7	8	9	10	11	12
13 	14	15	16	17	18	19
20	21 	22	23	24	25	26
27 	28	29	30			







LAST QUARTER SAT SEP 5
 LABOR DAY MON SEP 7
 NEW MOON SUN SEP 13
 FIRST QUARTER MON SEP 21
 FULL MOON (Harvest Moon) SUN SEP 27

UPCOMING EVENTS:

GENERAL MEETING	FRI, SEP 4	7:00 PM	JENKS HS PLANETARIUM
MEMBERS' NIGHT	FRI, SEP 11	7:30 PM	ACT OBSERVATORY
OKIE-TEX STAR PARTY	SEP 12-20	CAMP BILLY JOE, KENTON, OK	
PUBLIC STAR PARTY	SAT, SEP 19	7:30 PM	ACT OBSERVATORY
AUTUMNAL EQUINOX	WED, SEP 23	3:20 AM	
SIDEWALK ASTRONOMY	SAT, SEP 26	6:30 PM	BASS PRO
GENERAL MEETING	SAT, OCT 3	7:00 PM	JENKS HS PLANETARIUM
MEMBERS' NIGHT	FRI, OCT 9	7:00 PM	ACT OBSERVATORY
PUBLIC STAR PARTY	SAT OCT 17	7:00 PM	ACT OBSERVATORY
SIDEWALK ASTRONOMY	SAT OCT 24	6:30 PM	BASS PRO

OCTOBER 2015

MOON PHASES & HOLIDAYS:

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4 	5	6	7	8	9	10
11	12 	13	14	15	16	17
18	19	20 	21	22	23	24
25	26	27 	28	29	30	31



LAST QUARTER SUN OCT 4
 NEW MOON MON OCT 12
 FIRST QUARTER TUES OCT 20
 FULL MOON (Hunter's Moon) TUES OCT 27
 HALLOWEEN FRI OCT 31

TWO VERY IMPORTANT ANNOUNCEMENTS

EYEPIECES NEEDED FOR CLUB TELESCOPE

OCTOBER ELECTIONS

EYEPIECES NEEDED!

Principal Telescope Operator Christopher Proctor needs two good-quality eyepieces for the Club's telescope in order to be better able to show our guests the various deep-sky objects during his dome shows. He is looking for 2" 16 mm and 40 mm eyepieces. Since these are expensive items, he is asking for anyone who has such eyepieces and does not use them anymore to please consider donating them to the Club. If you have a 2" eyepiece in either 16 mm or 40 mm, and you wish to donate it, please contact either Mr. Proctor or a Club officer. Thank you for your consideration.

ELECTIONS WILL BE IN OCTOBER OF THIS YEAR.

The election of officers and board members for 2016 will be held at our OCTOBER General Meeting. The date will be Saturday, October 3 at 7:00 PM at the Jenks Planetarium. The meeting will be on that Saturday night due to a home game at Jenks on that Friday night. Anybody who is interested in an office or board position, or who would like to nominate someone, please contact Secretary Teresa Davis at astrotulsa.sec@gmail.com so she can get your or your nominee's name on the ballot.

Below is who is running so far:

President: Richard Brady
Vice President: Tamara Green
Secretary: Teresa Davis
Treasurer: Tim Davis
Board: Skip Whitehurst
Christopher Proctor
James Taggart

We will need to have a quorum of members in order to have the elections take place so please make plans to attend.

THANK YOU FOR YOUR CONSIDERATION ON BOTH OF THESE ISSUES!

**ASTRONOMY CONVENTIONS THIS SUMMER
GET YOUR RESERVATIONS IN AND SAVE!**

Okie-Tex Star Party September 12-20, 2015

<http://www.okcastroclub.com>
<http://www.okie-tex.com>



Pre-registration is **closed** as of **August 24, 2015**. You can still get into the star party, however, details below

Meals catered by Jody's Catering, Boise City, OK. Meal registration is **closed** as of **August 21, 2015**. However, you can still get meals, but on a LIMITED basis and the prices are as follows: Breakfast, \$11 each; Lunch \$13 each; Dinner, \$16 each.

Many of our Astronomy Club of Tulsa members go to this fun star party every year and it is WELL WORTH IT! Some of the most beautiful scenery in Oklahoma and the darkest skies! Plus a swap meet, great food, great guest speakers and the Okie-Tex Giveaway! Enjoy yourself with us at this magnificent dark sky site!

If you can't get your event and meal registrations in by their respective deadlines, don't despair! You can still get in on the fun. At-the-door admission to OTSP is \$75 plus your \$5 per day facility fee. Those who pay at the door are still eligible for the Okie-Tex Giveaway too!

Hope to see you there!



PHOTO CREDIT: TAMARA GREEN

An Invitation to attend the ELDORADO STAR PARTY!

You can save by registering early for the 13th annual Eldorado Star Party (ESP), October 5-10, 2015.

Just for amateur astronomers who want dark skies and a protected environment, the 7,100 acre X-Bar Ranch is 20 miles WNW of Sonora, Texas. Sponsored by the Austin, San Antonio, and Fredricksburg astronomy clubs, and assisted by volunteers throughout Texas, this event brings dark skies closer to the amateur astronomer... ESP's central location is within easy driving distance of many Texas cities... 3 hours west of San Antonio, and 5 1/2 to 6 hours from Dallas and Houston.

The site is eight miles north of Interstate-10, and has a convenient all-weather road and nearby light-shielded parking area at the observing fields. The main observing area includes power for telescopes and equipment, and is organized so that you may drive on-off from the nearby parking area at night without impacting the observers on the fields. The same darkout rules that you see at TSP will be in effect here! Here's some of what you will find at this year's ESP:

- * Star party activities including special observing programs, afternoon speakers, and doorprizes. And don't miss the nearby Caverns of Sonora!
 - * Camping (and hot water showers), special rates at nearby motels, catered meals.
 - * New! Safari Bed Tent! You can sleep in a comfortable bed on site and avoid the drive to a motel at a nearby town. Or if you already enjoy camping at ESP, now you can avoid the transport/setup/take down of your own tent, and get a real bed!
 - * Internet available at Lodge and observing field.
 - * Convenient ONLINE registration and payment via check or credit card!
- Want to learn more? There's lots of information on the ESP web site!

Register online NOW at:

<http://www.eldoradostarparty.org>

Pre-register soon, to save money before our rates go up!

PRESIDENT'S MESSAGE

BY RICHARD BRADY



Hi everyone!

Rosetta is hard at work orbiting comet 67P/Churyumov–Gerasimenko. There is a video of an eruption on the comet at <http://www.nasa.gov/jpl/rosetta-comet-outburst-captured>. More information can be found at <http://www.nasa.gov/rosetta>. And the Philae lander phoned home last on June 13. 800 packets of data have been transmitted. More information about Philae can also be found at the Rosetta link above.

Another mission that is still ongoing is the Dawn mission now orbiting the dwarf planet Ceres. The bright spots on Ceres are still something of a mystery. More information can be found at http://www.nasa.gov/mission_pages/dawn/main/index.html. There would be more in the news about this mission if not for ...

New Horizons! No one could have expected what has been discovered about Pluto and its moons. The heart, still unofficially named Tombaugh Regio (unofficial until the International Astronomical Union makes it official), is made up of different parts, as revealed in recent processed photos. See <http://app.plutosafari.com/gallery.html>. And Charon has a very dark north pole.

Okie-Tex Star Party is almost here! It is this month from Saturday, September 12 to Sunday, September 20 at Camp Billy Joe in the far western part of the Oklahoma panhandle. We have a Public Observing Night scheduled for Saturday, September 19, when many will still be out at Okie-Tex, so we will need additional volunteers that night. If you are NOT going to Okie-Tex and can volunteer for Public Night, please let me know at astrotulsa.pres@gmail.com.

And as if that wasn't enough for September, we have a Total Lunar Eclipse on Sunday, September 27. The total eclipse begins at 9:11 PM, mid-eclipse is at 9:48 PM, and ends at 10:23 PM. We are not planning on opening the observatory that night, since anyone can see the eclipse even in the light polluted skies in central Tulsa.

Special Notice: Due to a Jenks home football game on Friday, October 2nd, we are moving the General Meeting to Saturday, October 3rd. It will still be at 7:00 PM at the Jenks Planetarium. We will be having elections for the officers and board at the meeting. If you are interested in being an officer or on the board, please let our secretary, Teresa Davis, know and she will add you to the ballot. Her email is astrotulsa.sec@gmail.com. To be an officer or on the board you must be a member in good standing for at least a year.

In November, we will be having our annual dinner. This year it will be at the Jenks Planetarium on Saturday, November 7th at 6:30-8:30 PM. There is a very nice room with full kitchen facilities on the same floor as the planetarium, just at the other end of the hall. So mark your calendars. More details will follow.

And it may seem like a long time from now, but the Total Solar Eclipse is coming! It is less than 2 years away, Monday, August 21, 2017. The closest point to us is in or near Kansas City, Missouri.

Clear Skies!
Richard Brady

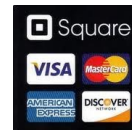
TREASURER'S AND MEMBERSHIP REPORT

BY TIM DAVIS



Astronomy Club of Tulsa: 155 members, including 47 new members in 2015.

Welcome to our new members this month: Sean Ratliff, Jonathan Castillo, Janine Rodriguez, Matthew Cook, Darin Ehrenreich, John Oathout, Matthew Manning, Marcus Gaslamp, Don Taylor and Stephen Strum.



Club Accounts as of August 31, 2015 :

Checking: \$4,105.08; Savings: \$3,774.55; Investment accounts: \$18,165.91 (Value Fluctuates with Market); PayPal: \$ 0.00

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 2015 are as follows:

Adults: \$45.00 per year, includes Astronomical League Membership.

Sr. Adult: \$35.00 per year for those 65 or older, includes Astro League Membership.

Students: \$30.00 with League membership; Students: \$25.00 without League membership.

Additional Family membership: \$20.00 with voting rights and League membership, \$15.00 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.

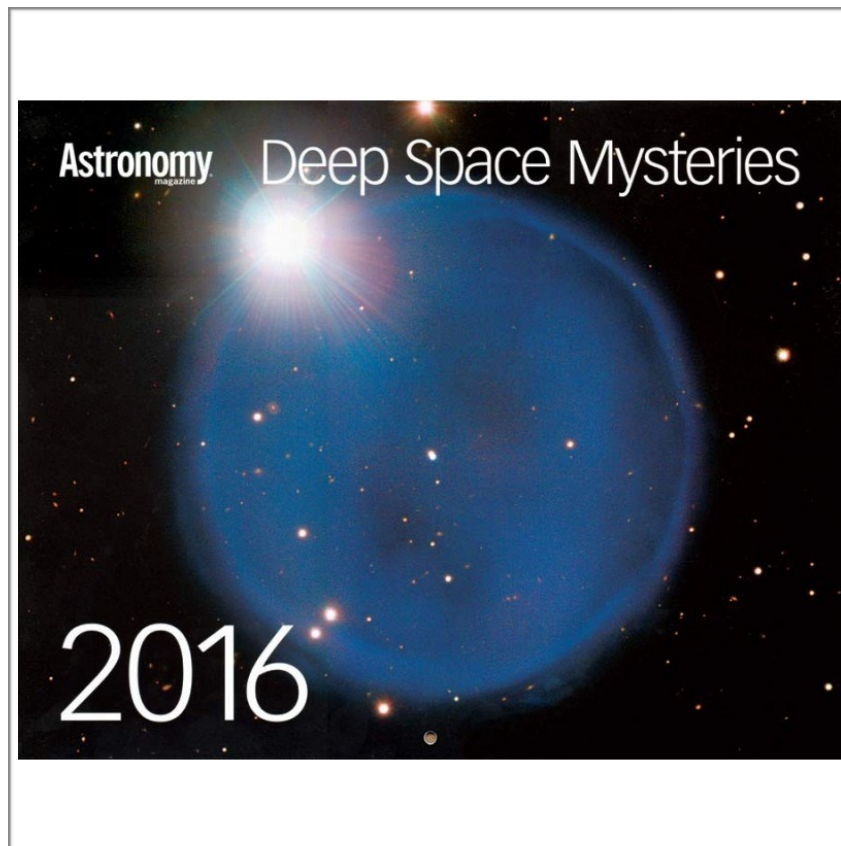
NEW SUBSCRIPTIONS must still be sent to the club

2016 Wall Calendar

The 2016 Astronomy Magazine Wall Calendars are here and are now available. If you would like to reserve one, send me an email at astrotulsa.tres@gmail.com, or call me at 918-665-8134 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. We have 50 available this year for \$10.00 each, cash, check or credit cards accepted. That is a 23% savings off the regular retail price.

Calendars must be picked up in person at a club event, we can not ship these to you. If you reserve one, just let me know at which event you will pick it up.

Get yours while they last!



Tim Davis

Act Treasurer



the Space Place

September-October 2015 / Vol. 8, Issue 3

NEWS AND NOTES FOR FORMAL AND INFORMAL EDUCATORS

Space Place is a NASA website for elementary school-aged kids, their teachers, and their parents.

It's colorful!
It's dynamic!
It's fun!
It's rich with science, technology, engineering, and math content!
It's informal.
It's meaty.
It's easy to read and understand.
It's also in Spanish.
And it's free!

It has over 150 separate modules for kids, including hands-on projects, interactive games, animated cartoons, and amazing facts about space and Earth science and technology.

It's back to school time, and here at NASA Space Place, we have lots of new articles and activities to share with your students.

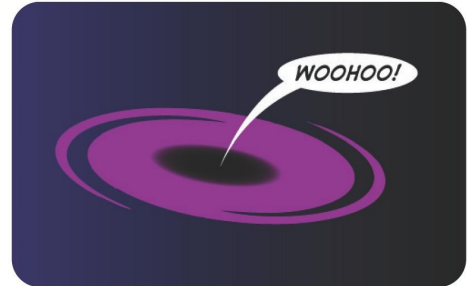
New! Planet Profiles

Find out more about our solar system's eight amazing planets with the new planet profiles. Find out how long a year lasts on Uranus and why the sun doesn't rise every "day" on Mercury.



Every profile features planet merit badges that showcase each planet's unique characteristics, as well as beautiful photos.

<http://spaceplace.nasa.gov/planets>



New! What is the Big Bang?

This article discusses one of the biggest questions in science: how did our universe begin?

<http://spaceplace.nasa.gov/big-bang>

New! Space Place Glossary

There are a lot of new vocabulary words to learn when you read about space and Earth science. Our new glossary has over 65 terms with easy to understand definitions.

<http://spaceplace.nasa.gov/glossary>



Explore Earth and space at spaceplace.nasa.gov

Printable Content

You can decorate your classroom with the official **Space Place calendar** for the **2015-2016** school year. It has beautiful images, NASA facts and trivia, and links to relevant content. Download individual months or the entire set today.
<http://spaceplace.nasa.gov/calendar>



Crafts, Crafts, Crafts!

Learn more about space, the sun, Earth, and comets with these fun activities.



Pinwheel Galaxy Pinwheel

A galaxy in the palm of your hand!
<http://spaceplace.nasa.gov/pinwheel-galaxy>

Sun Paper

Marbled paper that looks just like our sun.
<http://spaceplace.nasa.gov/sun-paper>

Earth Fan

A fan with all of Earth's interesting layers.
<http://spaceplace.nasa.gov/earth-fan>

Comet on a Stick

Your very own comet to fly around the room!
<http://spaceplace.nasa.gov/comet-stick>

Special Days

Noteworthy days in NASA and space history you can observe in your classroom.

September 1 — The first time a solar flare was observed and recorded, 1859.

What is a solar flare, anyway?
<http://spaceplace.nasa.gov/solar-cycles>

September 18 — Voyager I took the first photo of Earth and the moon together, 1977.

Do you know how far apart the moon and Earth are? It's farther than you might think!
<http://spaceplace.nasa.gov/moon-distance>

September 23 — Johann Galle discovered Neptune in 1846.

Find out more about our solar system's coldest planet, where one year takes 164 Earth years.
<http://spaceplace.nasa.gov/all-about-neptune>

October 3 — The National Oceanic and Atmospheric Administration founded in 1970.

Go on a wild weather adventure to celebrate!
<http://spaceplace.nasa.gov/wild-weather-adventure>

October 16 — The first geostationary operational environmental satellite (GOES) launched in 1975.

How do you build a weather satellite?
<http://spaceplace.nasa.gov/story-weather-satellite>

October 26 — People see first glimpse of the far side of the Moon in 1959.

Why does the moon have so many craters?
<http://spaceplace.nasa.gov/craters>



WHERE WE MEET

JENKS HIGH SCHOOL PLANETARIUM

105 E. B ST. JENKS, OK

DIRECTIONS TO THE JENKS HIGH SCHOOL CAMPUS:

FROM THE WEST: (MARKED IN RED ON MAPS)

TAKE US 75 TO THE MAIN ST. - JENKS EXIT

FOLLOW MAIN ST. APPROXIMATELY 2 MILES AND CROSS THE RAILROAD TRACKS

TURN LEFT ON 1ST ST.

FROM CENTRAL PART OF TULSA: (MARKED IN GREEN ON THE MAPS)

TAKE RIVERSIDE DRIVE TO THE 96TH STREET BRIDGE

TURN RIGHT AND GO OVER THE RIVER

FOLLOW A ST. APPROXIMATELY 7 BLOCKS

TURN RIGHT ON 1ST ST.

FROM THE EAST: (MARKED IN BLUE ON THE MAPS))

TAKE THE CREEK TURNPIKE TO S. ELM ST. IN JENKS

FOLLOW ELM ST. NORTH TO MAIN ST.

TURN RIGHT ON MAIN ST. AND CROSS THE RAILROAD TRACKS

TURN LEFT ON 1ST ST.

FOR EACH:

PARK IN THE LOT AT THE END OF 1ST ST.

USE THE DOORS AT THE NORTH SIDE OF THE BUILDING

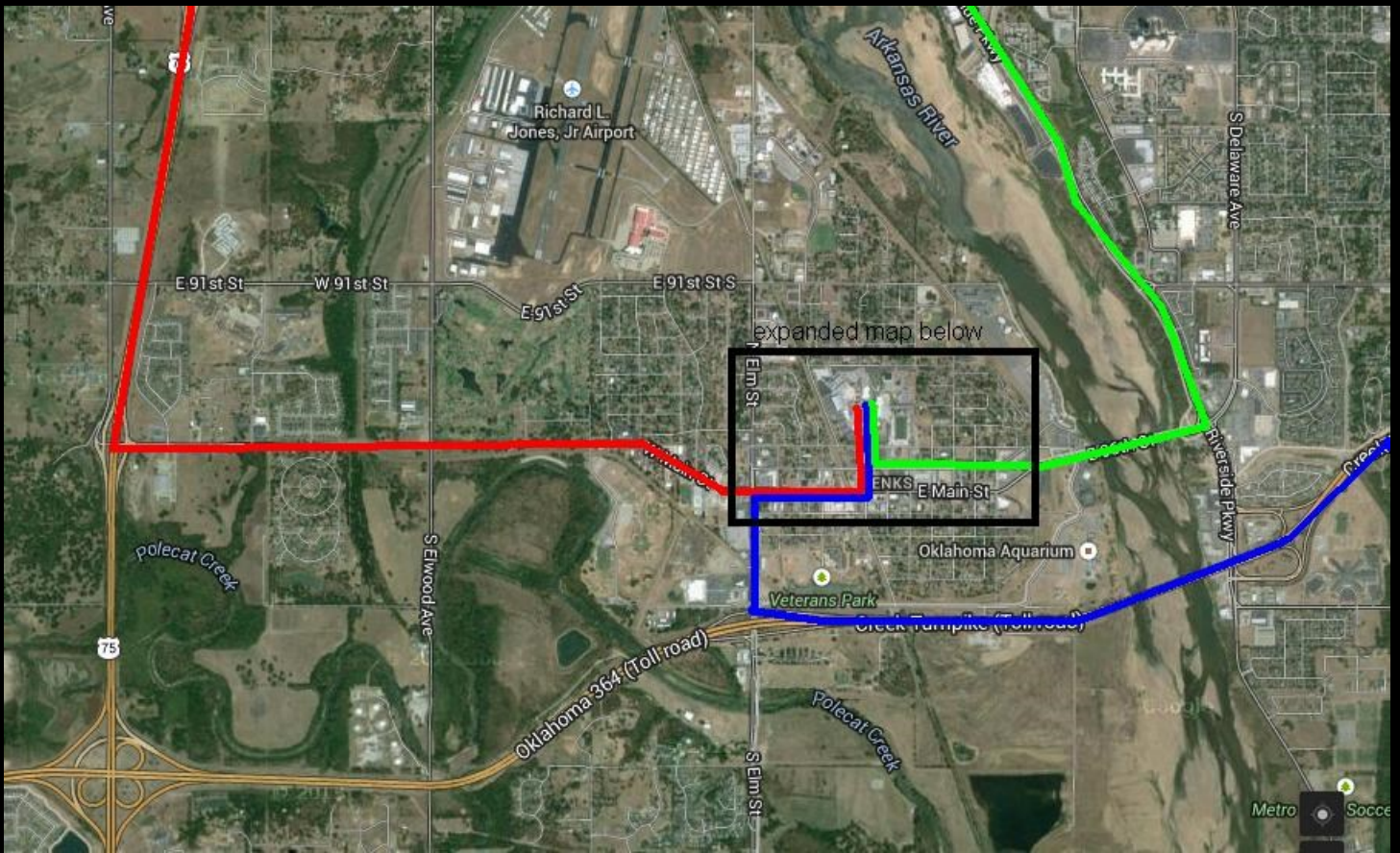
GO UP THE STAIRS TO THE 3RD FLOOR (THERE IS AN ELEVATOR FOR THOSE WHO NEED IT)

TURN RIGHT AND GO DOWN THE HALLWAY TO EITHER SIDE OF THE PLANETARIUM

MAPS ON NEXT PAGE

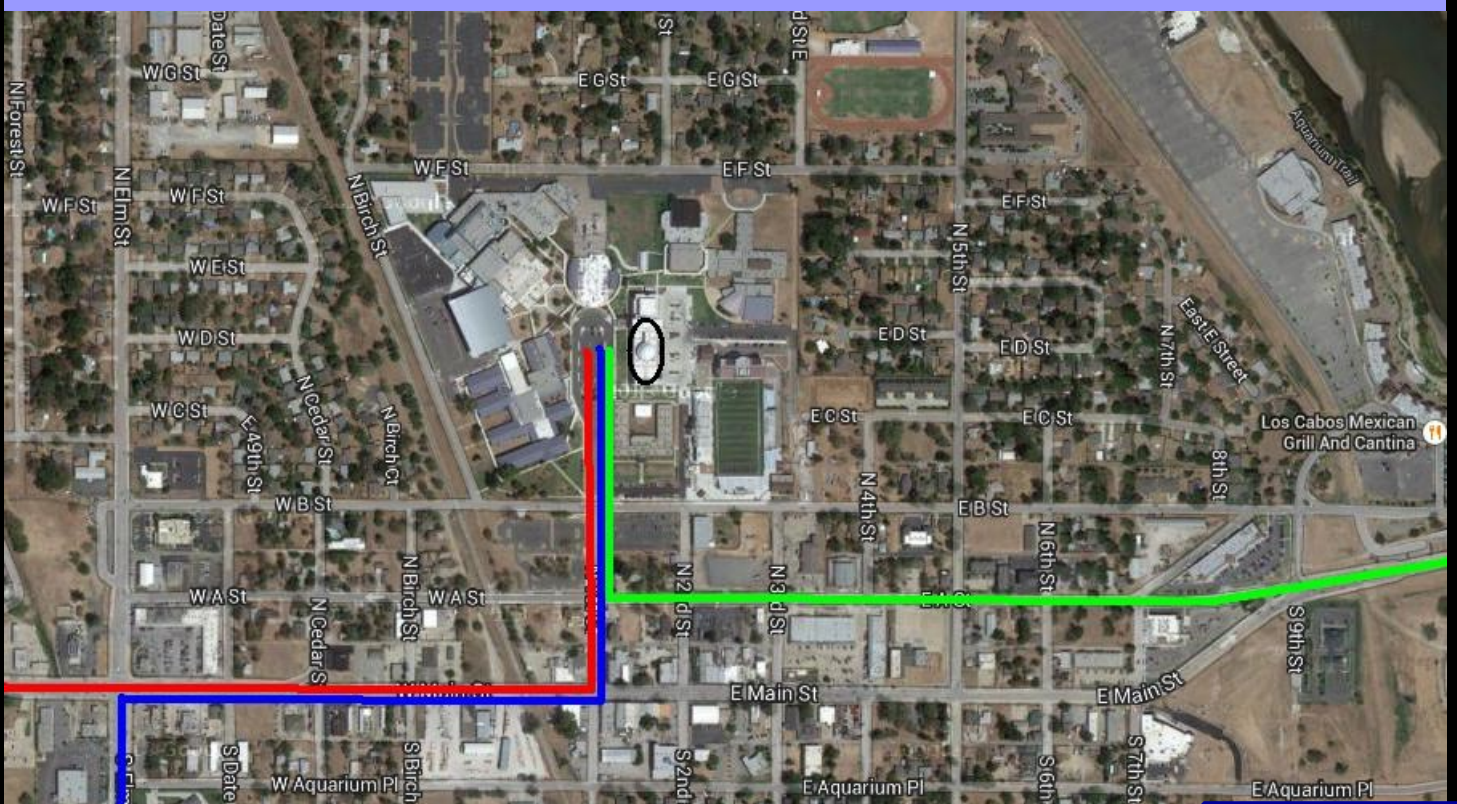
THE GENERAL MEETINGS ARE FREE AND OPEN TO THE PUBLIC.

WE HOPE TO SEE YOU THERE!



ABOVE: DIRECTIONS TO JENKS HIGH SCHOOL FROM CENTRAL TULSA, WEST OF TULSA AND EAST OF TULSA

BELOW: MAP SHOWING ROUTE INTO PARKING LOT



MEMBERSHIP INFORMATION

ASTRONOMY CLUB OF TULSA OFFICERS:

PRESIDENT RICHARD BRADY
astrotulsa.pres@gmail.com

VICE PRESIDENT TAMARA GREEN
astrotulsa.vp@gmail.com

SECRETARY TERESA DAVIS
astrotulsa.sec@gmail.com

TREASURER TIM DAVIS
astrotulsa.tres@gmail.com

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CHRISTOPHER PROCTOR
JAMES TAGGART
SKIP WHITEHURST
ED UNDERHILL

STAFF:

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astrotulsa.vp@gmail.com

WEBMASTER JENNIFER JONES
jjones@seedtechnologies.com

MEMBERSHIP CHAIRMAN JOHN LAND
astroclubbiz@windstream.net

OBSERVING CHAIRS OWEN AND TAMARA GREEN
darthnewo@yahoo.com, astrotulsa.vp@gmail.com

SIDEWALK ASTRONOMY OWEN GREEN
darthnewo@yahoo.com

PR AND OUTREACH OWEN GREEN
darthnewo@yahoo.com

GROUP DIRECTOR TERESA DAVIS
actgroupscheduling@gmail.com, astrotulsa.sec@gmail.com

NIGHT SKY NETWORK RICHARD BRADY
astrotulsa.pres@gmail.com

FACILITIES MANAGER JAMES TAGGART
astrotulsa.obs@gmail.com

MEMBERSHIP RATES FOR 2015 WILL BE AS FOLLOWS:

ADULTS - \$45 PER YEAR. INCLUDES ASTRONOMICAL LEAGUE MEMBERSHIP.

SENIOR ADULTS - \$35 PER YEAR. **FOR THOSE AGED 65 AND OLDER.** INCLUDES ASTRONOMICAL LEAGUE MEMBERSHIP.

STUDENTS - \$30 PER YEAR. INCLUDES ASTRONOMICAL LEAGUE MEMBERSHIP.

STUDENTS - \$25 PER YEAR. **DOES NOT INCLUDE ASTRONOMICAL LEAGUE MEMBERSHIP.**

THE REGULAR MEMBERSHIP ALLOWS ALL MEMBERS OF THE FAMILY TO PARTICIPATE IN CLUB EVENTS, BUT ONLY ONE VOTING MEMBERSHIP AND ONE ASTRONOMICAL LEAGUE MEMBERSHIP PER FAMILY.

ADDITIONAL FAMILY MEMBERSHIP - \$15 WITH ASTRONOMY CLUB OF TULSA VOTING RIGHTS, \$20 WITH CLUB VOTING RIGHTS AND ASTRONOMICAL LEAGUE MEMBERSHIP.

THOSE WISHING TO EARN ASTRONOMICAL LEAGUE OBSERVING CERTIFICATES NEED TO HAVE A LEAGUE MEMBERSHIP.

MAGAZINE SUBSCRIPTIONS:

ASTRONOMY IS \$34 FOR ONE YEAR OR \$60 FOR 2 YEARS.

WEBSITE: www.astronomy.com

SKY & TELESCOPE IS \$33 PER YEAR.

WEBSITE: www.skyandtelescope.com

SKY & TELESCOPE OFFERS A 10% DISCOUNT ON THEIR PRODUCTS.

IF YOU ARE AN EXISTING S&T SUBSCRIBER, YOU CAN RENEW DIRECTLY WITH S&T AT THE SAME CLUB RATE. BOTH S&T AND ASTRONOMY NOW HAVE DIGITAL ISSUES FOR COMPUTERS, IPADS AND SMART PHONES.

ONLINE REGISTRATION

WE NOW HAVE AN AUTOMATED ONLINE REGISTRATION FORM ON THE WEBSITE FOR NEW MEMBERSHIPS, MEMBERSHIP RENEWALS AND MAGAZINE SUBSCRIPTIONS. JUST SIMPLY TYPE IN YOUR INFORMATION AND HIT "SEND" TO SUBMIT THE INFORMATION. YOU CAN THEN PRINT A COPY OF THE FORM AND MAIL IT IN WITH YOUR CHECK, OR USE OUR CONVENIENT PAYPAL OPTION. .

LINK: <http://www.astrotulsa.com/Club/join.asp>

OR, IF AT A STAR PARTY OR MEETING, SIMPLY FIND A CLUB OFFICER TO ASK ABOUT JOINING OR RENEWING WITH YOUR DEBIT OR CREDIT CARD THROUGH OUR CONVENIENT SQUARE OPTION!



THE ASTRONOMY CLUB OF
TULSA INVITES YOU TO MAKE
PLANS THIS FALL TO JOIN US AT
A STAR PARTY!

OPEN TO THE PUBLIC
FOR MORE INFORMATION
PLEASE VISIT
WWW.ASTROTULSA.COM.

THE OBSERVER IS A PUBLICATION BY
THE ASTRONOMY CLUB OF TULSA. THE
ASTRONOMY CLUB OF TULSA IS A 501C
3 NON-PROFIT ORGANIZATION OPEN TO
THE PUBLIC. THE CLUB STARTED IN
1937 WITH THE SINGLE MISSION TO
BRING THE JOY AND KNOWLEDGE OF
ASTRONOMY TO THE COMMUNITY OF
TULSA, OK AND THE SURROUNDING
AREA. TODAY OUR MISSION REMAINS
EXACTLY THE SAME. WE TRAVEL TO
LOCAL SCHOOLS, CHURCHES AND
MANY OTHER VENUES WITH SCOPES
AND PEOPLE TO TEACH. OUR
OBSERVATORY IS LOCATED IN MOUNDS
AND MANY PUBLIC PROGRAMS ARE
OFFERED THERE. TO JOIN THE
ASTRONOMY CLUB OF TULSA, PLEASE
VISIT WWW.ASTROTULSA.COM WHERE
YOU WILL FIND ALL THE INFORMATION
NECESSARY TO BECOME A MEMBER.

 Also find us on Facebook!

<https://www.facebook.com/AstronomyClubofTulsa>



WE ALSO ARE A PROUD PARTICIPANT IN
NASA'S NIGHT SKY NETWORK.

THE EDITOR WISHES TO THANK THE FOLLOWING FOR
THEIR CONTRIBUTIONS TO "THE OBSERVER" FOR

RICHARD BRADY

TIM DAVIS

TAMARA GREEN



ABOVE PHOTO: Cassiopeia and Andromeda with the Andromeda Galaxy

BELOW PHOTO: One Last Sky-Scape

Both photos taken at Okie-Tex Star Party on Sep 27, 2014 by Tamara Green.

