

# PICTURE OF THE MONTH

One year ago this month we held our group night under the stars at the ranch. Last year's picture made picture of the month this year to jog everyone's memory and plant the seed of inspiration. Hint, Hint (From left-Dan Lamoreaux setting, Steve Chapman, Tony White and Craig Davis-Behind Tony's 18" Dob)



Picture of the Month is one of many new features added to the Observer. I would like to invite every club member to submit their favorite astronomy related pictures. These can be a few astronomy friends as above or your CCD images. If we get a good response then we can make it a permanent resident here at the Observer. Jerry

# PRESIDENT'S MESSAGE

By Tamara Green

Hello Everyone! I hope this merry month of May finds you all healthy, happy, and ready for some excellent Spring and Summer observing!

This month's guest speaker is Mr. Zach Garrett, of Garrett Optical. He will be on hand to show us some very nice binoculars and talk about the benefits to be derived from a good pair. Binocular astronomy is at least nearly as popular, if not as popular, as telescope astronomy. Many people in our club enjoy it. (Continued on page 2)



The Astronomy Club of Tulsa is a member of the Astronomical League.

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### **MONTHLY MEETING INFO**

- 11 May 2007—7PM
- Room M! inside Keplinger Hall, the Science & Engineering Building at TU.
- Enter the parking lot on the East Side of Keplinger Hall from Harvard and 5th Street. This will take you directly toward the staircase to enter the building. Room M1 is the first room on the left

Astronomy Club of Tulsa, Inc. has been meeting continuously since 1937 and was incorporated in 1986. It is a nonprofit; tax deductible organization dedicated to promoting, to the public, the art of viewing and the scientific aspect of astronomy.



### (Presidents Message Continued)

There are also observing certificates through the Astronomical League that are specifically designed for binocular use! Zach's products are excellent, and very reasonably priced. It is my hope that you will all come out for this fun and informative presentation! The meeting will take place at TU's Keplinger Hall, room M1, on Friday, May 11, at 7:00 PM.

Also, the May meeting will be the final meeting that will take place at TU. As you probably already know, (or if you are a new member and don't already know yet) we do not have regular monthly meetings during the months of June, July, and August. I

am very pleased to be able to announce that beginning in September, when we resume our meetings after the Summer break, that ALL future meetings of the Astronomy Club of Tulsa (with the exception of our annual dinner

"I wish to personally thank everyone who came out to the observatory for our work day on Saturday"

meeting in November) will be held at Tulsa Community College (TCC) Metro Campus, downtown, between 9<sup>th</sup> and 10<sup>th</sup> Streets and Boston Avenue. Teresa will have maps and directions printed out and available at our May meeting. Your officers and board members have long been aware of the low attendance at our meetings, due to the now non-existent parking spaces at TU. TCC's auditorium is very nice, according to Secretary Teresa Kincannon and long-time club member James Liley. Both Teresa and James are instructors at TCC, so they know how nice it is! It will be easily big enough to accommodate everyone, and it has PLENTY of parking conveniently close to the building. It is patrolled by security 24/7. And, best of all, NO SPORTING EVENTS TO CONFLICT WITH OUR MEETINGS!!!!!! I have not yet had a chance to see the new facility for myself, but I can pretty much guarantee it is a far better site all around! I hope that you all will enjoy meeting there in the nice atmosphere and find the auditorium seating comfortable. I know I will!

I wish to personally thank everyone who came out to the observatory for our work day on Saturday, April 21 and for clearing weeds, trimming foliage, trees, etc. Well done, everyone!

Our next star party will be on Friday, May 18<sup>th</sup>, beginning at sundown. One highlight for the evening will be a spectacular view of Venus very close to the crescent Moon. If you get a chance to go out on Saturday, May 19, and look to the West, you will be treated to a beautiful pairing of Venus and the Moon, which will be touching! Mercury will be around 10 degrees above the WNW horizon. The King of Planets, Jupiter, will be rising around 11:00 PM at the beginning of May, but rising at around sunset by May's end. It will be to the Northeast of the star Antares in Scorpius, the gap between the two closing from 11 degrees to 8 degrees during May. (See Sky and Telescope, May 2007, pages 48 and 49.)

Our star parties for the following months are scheduled for Friday, June 15<sup>th</sup>, Friday, July 13<sup>th</sup>, and Friday, August 10<sup>th</sup>. As

always, we will have the Saturdays as back-up nights, and quite possibly work days during the day. Our Summer star parties are always fun, with the spectacular sights to be seen through your telescopes and/or binoculars. The Summer Triangle, Scorpius, Saggitarius, Hercules and the Milky Way, just to name a few will all be up, beckoning us to view their hidden treasures! I really hope to see you all there!

As we get closer to September, I will be sure to alert everyone as to the date and time for the meeting, because we are going to the new facility and there may or may not be a change in the schedule.

Clear Skies to All!

# AS THE DOME TURNS

By Jerry Mullennix

First off I would like to begin by thanking Richie Shroff for all he has done for the Astronomy Club of Tulsa. I would also like to dedicate this issue of the Observer to Richie. Richie has been the editor and chief of the Observer for 27 years. For 27 years

he has selflessly brought our newsletter to press. When Richie took the responsibility in 1980 the club was hand writing a few details on a 3 X 5 index card and sending them like postcards. Richie took the job gave it a real newsletter look and feel and brought it into the 21<sup>st</sup> century with pdf and email formats. All of the features you have grown to expect in the newsletter are a direct result of the work Richie has done for you each and every month for 27 years.



John Land left and Richie Shroff

If you get lucky enough to see Richie at one of our star parties this summer, I would like to invite you give him a pat on the back and a sincere thank you. If you missed last month's newsletter you would have missed his final edition as he has now handed the rains over to me. It will be extremely hard to match the level of professionalism he has established here at the Observer and it is a little intimidating knowing he will be watching. I only hope that I can live up to his and your expectations. Thank you Richie for this opportunity.

Now as I am sure you have noticed the format has changed again and I am going to try several different things over the next several months. As you see items you like or don't like I would like to ask that you give me your feedback. Below are a few things you can look for in this edition or in the near future

• Interactive online edition

(Continued on Page 3)



(As The Dome Turns From Page 2)

- Online article submission
- Secretary's Section
- Event Calendars
- Observers Challenge lists and more League information for Certificate Lists
- Picture of the Month (all are welcome to submit)

Fun with no Sun (this will appear in a few months as I seek a unsuspecting volunteer)

Of course we are keeping some of your favorites like David's Astro Corner, Land's Tidbits and the Presidents Message and the occasional Night Sky Network. If you have an idea for a monthly article or would like to write one yourself I strongly encourage you contact me.

Speaking of the Night Sky Network I have turned responsibility of this project over to Teresa Kincannon so I can give the newsletter my primary focus. I will still maintain a coordinator status with NSN and of course as the press I will make every effort to help with the events.

I have setup a email address to deal with all of the concerns of the newsletter while I write a web interface specifically for the newsletter. Please feel free to send any information, events comments or suggestions to <a href="mailto:Astro.newsletter@pantherenergy.us">Astro.newsletter@pantherenergy.us</a>.

# SUMMER STAR PARTIES AND VACATION EVENTS

By John Land

There are many opportunities this summer to observe and share experiences with other amateur astronomers around the country. Since many of you have to plan early for vacation time, here are a few to consider. REMEMBER THERE ARE USUALLY DISCOUNTS TO REGISTER EARLY.

<u>Midstate's Regional Astronomy Convention</u> -- June 8 & 9, 2007

Hosted by the Omaha, Nebraska club this event draws veteran and novice astronomers from all over the central region of the country. <a href="http://www.omahaastro.com/MSRAL2007.html">http://www.omahaastro.com/MSRAL2007.html</a>

<u>Heart of America Star Party</u> – June 12 to 17 Held in a private astronomy preserve in west central Missouri. This event is sponsored by the Kansas City club. <a href="http://www.hoastarparty.org/">http://www.hoastarparty.org/</a></u>

<u>Green Bank Star Quest</u> – July 4 to 7 Held on the grounds of Green Bank Radio observatory in West Virginia. This is billed as the largest optical and radio astronomy star party in the nation

Details at <a href="www.greenbankstarquest.org">www.greenbankstarquest.org</a> Note: this event is 3 days after full moon to 3rd quarter.



Nebraska Star Party July 15 to 20 This star party has events for the whole family. Held at a state park with fishing boating and star gazing. There are special classes and events for beginner and novice stargazers as well as plenty of dark skies for veteran observers. www.nebraskastarparty.org

OkieTex Star party - Oct 6 to Oct 14 This event is held in the tip of the Oklahoma Panhandle under some of the darkest skies in America. Many of our Tulsa area members attend this event.www.okie-tex.com

<u>Tulsa area events</u>: Our Tulsa club will also be having monthly star parties at the observatory during the summer. Plus many members get together at other times to do some serious observing.

Club Star Parties are scheduled May 18, June 15, July 13 and Aug 10

Other events may be announced as they develop.

# Satya Swaroop Patnaik Stephen Edge Tony Wilson Kevin Smith

Julie Moeller



### **Schedule of Events**

- 05-05-2007—Eta Aquarids Meteor Shower
- 05-11-2007 TU Meeting
- 05-18-2007 Star Party— Friends and Relatives are welcome.



Sun						Sat
		1	2	3	4	<b>5</b> Eta Aquarids
						Eta Aquarius
6	7	8	9	10	11	12
					TU Meeting	
13	14	15	16	17	18	19
					Star Party	
20	21	22	23	24	25	26
27	28	29	30	31		

# June 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15 Tulsa	16
		Heart of America	Heart of America	Heart of America	Star Party	Heart of America
17	18	19	20	21	22	23
Heart of America						
24	25	26	27	28	29	30

### Schedule of Events

- 6-12 thru 6-17 Heart of America sponsored by the K.C club
- 6-15-2007 Club Star Party All invited

Since this is the first month we have published these calendars the information is sparse but I would like to invite all club members to contribute when they schedule astronomy events and we will be glad to publish your events here. Just drop an email to Astro.newsletter@pantherenergy.us



# **ASTRO SNAPS**

Club Submitted Images—Send your recent astro images and we will be glad to show off your work to the rest of the club.

### **JUPITER**

### PLANET FACT SHEET

Courtesy of NASA's Night Sky Network

The most massive planet in our solar system, with four planet-sized moons and many smaller moons, Jupiter forms a kind of miniature solar system. Jupiter resembles a star in composition. In fact, if it had been about eighty times more massive, it would have become a star rather than a planet.

On January 7, 1610, using his primitive telescope, astronomer Galileo Galilei saw four small 'stars' near Jupiter. He had discovered Jupiter's four largest moons, now called <u>Io, Europa, Ganymede</u>, and <u>Callisto</u>. Collectively, these four moons are known today as the Galilean satellites.

Galileo would be astonished at what we have learned about Jupiter and its moons in the past 30 years. Io is the most volcanically active body in our solar system. Ganymede is the largest planetary moon and is the only moon in the solar system known to have its own magnetic field. A liquid ocean may lie beneath the frozen crust of Europa. Icy oceans may also lie deep beneath the crusts of Callisto and Ganymede. In 2003 alone, astronomers discovered 23 new moons orbiting the giant planet, giving Jupiter a total moon count of 63 - the most in the solar system. The numerous small outer moons may be asteroids captured by the giant planet's gravity.

RICHARD SMEDLEY sent this image and said he had missed the Venus occultation but did manage to capture a few decent Jupiter images early the same morning. Richard goes on to say; "Although Jupiter is low at around 30 degrees, the jet stream has moved away by a few hundred miles and presents some good opportunities for planetary imaging. I took this image in Broken Arrow with my Celestron CGE C1400, a Lumenera SKYnyx2.0m camera, Astronomik RGB filters and a near-IR channel combined with the red channel. Image is a composite of about 3200 frames, 800 of each channel. Jupiter is undergoing some interesting changes compared to last year." GREAT SHOT RICHARD KEEP EM COMING.



2002 (Courtesy of NASA)



2005 (Courtesy of NASA)

In comparing Richards photo above with these two images to the left you can clearly see that the Great Red Spot seems to be on the move. Notice in Richards picture how it appears to have shifted away from the banding and changed shape somewhat. The equatorial banding appears to have more activity than previous years as well. I also see a lot of white spot activity on the planet, these come and go like sun spots. It could be that Jupiter is about to show us some surprises. Either way Jupiter always offers the armature astronomer more visual activity than any other planet and at 2 1/2 times the size of all of the other planets combined she offers a nice big target.



# **CLUB FORUM & NOTICES**

### **COOL RUNNINGS**

At our May meeting a proposal will be presented and voted on to make our observatory a more comfortable all season facility. Details will be provided at the meeting.

The basic idea is to install a motel type AC / Heat unit and complete the necessary electrical and insulation work.

Should this proposal be expectable to the membership Craig Davis would like to know if any of our members have the necessary electrical skills to do the wiring.

# **DAVID'S ASTRO CORNER**

Have you ever observed an asteroid with your naked eye? Well the end of this month and the first part of June you will have that chance. The asteroid 4 Vesta will be making its brightest appearance in 18 years and will become as bright as Mg. 5.4 the last of May and remain naked eye through about June 18<sup>th</sup> before it fades past 6<sup>th</sup> Mg. The asteroid will be fairly easy to locate as it will be near Jupiter during this brightest time. Another get guidepost will be the globular cluster M107 where 4 Vesta will be passing very near between May 25<sup>th</sup> and June 1. This year also marks the 200<sup>th</sup> anniversary of the discovery of the asteroid. Appropriately, this apparition is the best since 1989, so you need to get out and check out this bright asteroid. The June issue of Sky and Telescope has a chart of Vesta's movement from May through August on Page 57 to help you locate it. The best way to determine if you are seeing the asteroid and not just another star is to sketch the area around what you are looking at or image the area, then go back the next night and the star that has moved will be the asteroid.

This month also brings you your next opportunity to view Lunar X. On May  $24^{th}$  at 0516UT or 0016CST you can watch the X start to form and in approximately an hour the complete X will be formed. See last months Observer for a picture of the March event and where you need to be looking. A good chart of the moon will help you in your quest. The moon will be low as it sets on the  $25^{th}$  at 0124CST, so we may not get to see the full X before the moon sets.

On May 19<sup>th</sup>, there will be a beautiful pairing of Venus and a crescent moon. These pairings are not rare, but always awesome to see,

and at times better than others. This month brings one of those times. On that May evening see a slender crescent moon with Venus at the bottom end or the southern end of the crescent. A photo moment or now-a-days a digital moment

We all love our hobby and sharing our hobby with others, family, and opening up new worlds to people who without us would never know or see planets, comets, meteors, iridium flares and simple things like the International Space Station fly over. We all love to see kids and even grownups expressions when they first see the rings of Saturn or a close up view of the moons craters in a telescope. Recently during the Lyrid Meteor Shower I received an e-mail from a father who was giving his daughter a meteor shower experience who kind of summed up what I am talking about which I thought I would pass on to you:

Richard Kramer begins with with "such a pleasant, albeit brief, April night session. Spring peepers in full voice. Relatively mild temperatures. Despite the murky skies and the brevity of the session, spied a couple of spectacular Lyrids with a .5 second persistent trains. Observing with my daughter. We were rewarded with a pretty mag 0 Lyrid within 5 minutes of logging on. Then it got rather quiet. My daughter was getting sleepy and suggested an earlier than planned departure. I told her that if we left right away we'd miss the arrival of a tiny bit of comet dust that was only about 30,000 km away and racing right at us.

She replied, "How long will it take to get here?" I replied, "Well, its been speeding through space unmolested for centuries, but in another 10 minutes its going to be very surprised as it slams into our upper atmosphere like a bug hitting a windshield. It should be a good one>" Not quite 10 minutes later, she replied, "Well, it looks like your speck isn't coming." I replied, "It's still about 90 seconds out. Lets keep watching. It will be worth it." 90 + or minus 5 seconds later a spectacular point of light appears just east of the Northern Crown and races westward in an exquisitely tightly spiraled track, intermittently flashing bits of red and orange leaving a brief, delicate, filamentous train. She blurted out, "WOW! That was amazing! How did you know?" (Some questions are best left unanswered).

May is a great month to get out and observe. Each month Skyhound puts out a list of objects to view for that month along with charts and information on each. Below is the list for May. If you are unable to click on the object name and go directly to the information go to the following address <a href="http://www.skyhound.com/sh/skyhound.html">http://www.skyhound.com/sh/skyhound.html</a>. I hope to I include each months objects in my monthly article for your observing pleasure.



## **DAVID'S MAY OBJECTS**

For more information on the following objects go to <a href="http://www.skyhound.com/sh/archive/may/">http://www.skyhound.com/sh/archive/may/</a> you will find a chart, and a visual description. Objects are generally ordered by difficulty to observe with the most easy at the top.

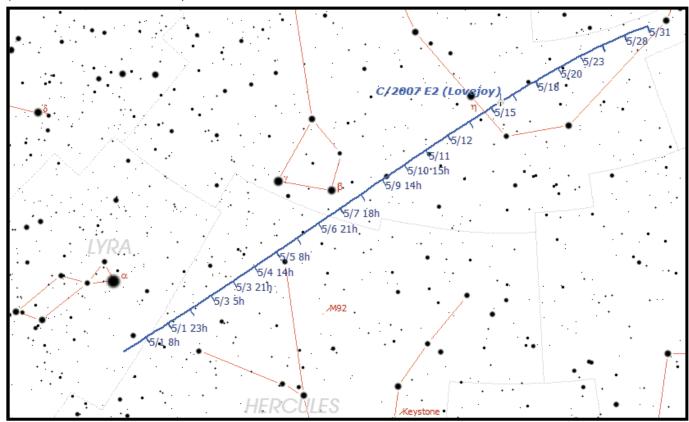
Object(s)	Class	Con	RA	Dec	Mag
<u>Izar</u>	Multiple Star	Bootes	14h44m59.2s	+27°04'27''	2.4
Xi Boo	Multiple Star	Bootes	14h51m23.4s	+19°06'02''	4.5
<u>44 Boo</u>	Multiple Star	Bootes	15h03m47.4s	+47°39'15''	4.8
<u>M 3</u>	Globular Cluster	Canes Venatici	13h42m11.8s	+28°22'24''	6.3
NGC 5466	Globular Cluster	Bootes	14h05m27.7s	+28°31'49''	9.2
<u>39 Boo</u>	Multiple Star	Bootes	14h49m41.3s	+48°43'15''	5.7
<u>M 53</u>	Globular Cluster	Coma Berenices	13h12m56.2s	+18°09'56''	7.7
<u>Pi 1 Boo</u>	Multiple Star	Bootes	14h40m43.6s	+16°25'06''	4.5
Whirlpool (M51)	Galaxy	Canes Venatici	13h29m52.4s	+47°11'41''	8.9
The Pinwheel (M101)	Galaxy	Ursa Major	14h03m12.5s	+54°20'53''	8.3
NGC 5474 & Co.	Galaxies near M101	Ursa Major	14h05m01.4s	+53°39'45''	11.3
NGC 5529	Galaxy	Bootes	14h15m34.2s	+36°13'35''	12.7
<u>IC 5217</u>	Planetary nebula	Lacerta	22h23m55.7s	+50°58'00''	12.6
NGC 5774 & 5775	Galaxy Pair	Virgo	14h53m42.6s	+03°34'55''	12.8
NGC 5371	Galaxy	Canes Venatici	13h55m39.8s	+40°27'43''	11.5
Hickson 68	Galaxy Group	Canes Venatici	13h53m40.9s	+40°19'41''	10.5
NGC 5634	Globular Cluster	Virgo	14h29m38.1s	-05°58'42''	9.5
NGC 5053	Globular Cluster	Coma Berenices	13h16m28.2s	+17°41'44''	9.0
Arp 84	Interacting Galaxies	Canes Venatici	13h58m38.0s	+37°25'28''	12.1
IC 972	Planetary Nebula	Virgo	14h04m26.0s	-17°13'41"	14.9
<u>UGC 7321</u>	Superthin Galaxy	Com	12h17m34.1s	+22°32'26''	14.1

In Comet news, Comet Lovejoy has turned out to be a nice little comet for northern hemisphere observers. It is now making its way past the bright star Vega and will be nearing the four stars that make up the head of Draco. The comet is fading but should remain between 8<sup>th</sup> and 9<sup>th</sup> Mg. for the rest of the month high in the sky all night. Below is a chart of the comets location through the rest of the month:

(Continued on page 8)



### (David's Astro Corner Continued)



Women are major contributors to the science of Astronomy. Their research has resulted in new discoverys and advancement in the field. Our club is lucky to have the expertise of Tamara, Ann, Teresa, KC, and others to help our club to grow and develop into the kind of club that we all have envisioned. Below is a letter that recently was distributed by the Astronomy Club of the Pacific. They are asking women that participate in astronomy to complete a survey that will help all clubs better understand the needs and how to better recruit women to their clubs. If you would like to participate in this survey see below.

### Dear Amateur Astronomer:

We are actively seeking your input! As part of a research project in public astronomy education, two of your colleagues would like to gather data on the interests, attitudes, and experiences of female amateur astronomers. Judy Koke and Laura Danly have devised an on-line survey and invite women amateur astronomers to participate. The survey takes no longer than 10 minutes to complete. The survey can be found at:

### http://websurveyor.net/wsb.dll/29886/waa.htm

The results will be published in an upcoming volume from the Astronomical Society of the Pacific on amateur astronomers and astronomy education entitled "Science Educators in Our Midst: Amateur Astronomers Engaged in Education and Public Outreach" (working title) due out in September, 2007.

We expect to finish collecting data by the middle of May. We would be most appreciative if you can visit our survey web site before that time.

The more responses we gather, the better we can understand the landscape for women in amateur astronomy clubs. We hope our results might help illuminate how AA clubs can better recruit and serve women generally, and thus grow club membership. If you have any questions or concerns about this survey, please feel free to contact either of the researchers.

Thanks so much for your time and your thoughts,

Judy and Laura.

That's it from my corner this month. Keep your eyes to the sky, and don't forget to catch an asteroid, lunar X, Venus's close pairing with the moon, Comet Lovejoy, and whatever may grace our May skies. Don't forget May 19<sup>th</sup> and go somewhere and set up your telescope and show the skies to the public, then share your experience with us in next months newsletter.



# INTERNATIONAL SIDEWALK ASTRONOMY NIGHT

The first International Sidewalk Astronomy Night will be held on Saturday, May 19, 2007. This is a new initiative, not to be confused with International Astronomy Day, which took place on April 21.

The main difference between these two events is where they take place. On International Astronomy Day, clubs, observatories, and planetariums open their doors to the public for a variety of events. The catch is that they take place on the organizations' home turf, and the public is expected to find out about these events, to seek them out. International Sidewalk Astronomy Night takes its cue from the John Dobson's original idea of Sidewalk Astronomy: taking telescopes to the people.

John Dobson, inventor of the Dobsonian telescope, had the idea back in 1968 of setting up telescopes where people congregate: on the streets of the city, in shopping mall parking lots, outside movie theatres, in city parks. This started originally in San Francisco, but the idea has spread widely. While often organized in clubs, it can also be undertaken by one or two enthusiastic amateurs on their own. For example, a number of us have used Hallowe'en as a time to set up our telescopes on about the only night of the year when there are large numbers of pedestrians in suburban neighborhoods. This year

on Saturday May 19, the Sidewalk Astronomers www.sidewalkastronomers.us are inviting amateur astronomers around the world to set up their telescopes in places where people congregate:

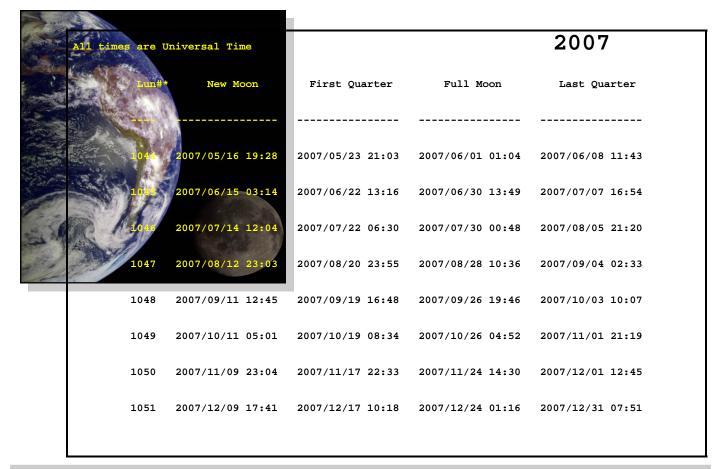
### http://home.earthlink.net/~sidewalkastronomynight/

This web page contains detailed information on how to proceed, and includes materials for preparing handouts for the public. They're inviting people to sign up on their web site so that they can get some idea of the numbers involved: so far well over a hundred individuals and clubs have joined in the effort. There are participants on all of the world's continents except for Antarctica...not too many pedestrians there!

May 19 should be a comfortably mild night in most locations. Venus and a four-day-old Moon will be close to conjunction in the west, with Saturn high above them, so there will be plenty to look at even in the most light-polluted locations. Deep sky objects are usually less popular with the public, especially in the face of light pollution, but the globular clusters M3 and M13 might be worth a look.

If you've never used your telescope to show off the sky to the public, this will be a wonderful opportunity to "share the skies"!

# LUNAR SCHEDULE





### **Lands Tidbits**

by John Land April 10, 2007

### New Subscription renewal procedure for Sky & Telescope

Sky & Telescope outsourced their subscriptions mailings and renewals to a company in Florida.

As a result of this change you may renew your Sky & Telescope subscription directly with out having to mail in the subscriptions to the club treasurer. You may have already notice the new address if you received a renewal notice. You will still receive the club discount rate of \$ 32.95 per year. Sky & Telescope will send out a list annually to verify club membership. You may also phone in your renewal at 1-800-253-0245. You will need to know your subscription number when you call. The new change should make renewing your subscription more convenient and allow you to use your credit card. The down side seems to be that it has added about an extra month to getting renewals and new subscriptions started. So send renewals in at least 2 months before they expire.

NEW SUBSCRIPTIONS must still be sent to the club treasurer. Forms are available on the website.

### DON'T LET YOUR MEMBERSHIP or Subscriptions LAPSE!!

Check your MAILING LABEL for membership expiration date. Those receiving Email should get a reminder when your membership is up for renewal or you may contact John Land. You may also renew magazine subscriptions through the club for substantial discounts.

Magazine subscriptions Renewals: Several of you may be receiving renewal notices for you Astronomy or Sky & Telescope. Sky & Telescope may be renewed directly to the company. If you have an individual membership you may renew through the club you get a substantial discount. Go to the website and fill out the renewal form then print it off and mail it in with your notice and envelope from the magazine. Or you may fill out and mail in the form below.

GUEST SIGN IN SECTION on the Website is already bringing the club new contacts for potential new members.

Changing EMAIL - When you change your email or mailing address be sure to send me the new information so I can update the club records. You can use the Join feature on the club web page to make changes.

### ON LINE Club Memberships and Renewals:

Adults - \$35 per year includes Astronomical League Membership

Sr. Adult discount \$25 per year for those over 65 includes Astronomical League Membership

Students \$ 15 without League membership.

Students \$ 20 with League membership.

We now have an automated on line registration form on the website for new AND renewal memberships plus magazine subscriptions. You simply type in your information and hit send to submit the information.

### http://www.astrotulsa.com/Club/join.asp

You can then print a copy of the form and mail in your check.

Astronomy Club of Tulsa - 25209 E 62nd St - Broken Arrow, OK 74014

Magazine Subscriptions: If your magazines are coming up for renewal, try to save the mailing label or renewal form you get in the mail. Do NOT mail renewals back to the magazine!

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

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

Sky & Telescope is \$33 / yr www.skyandtelescope.com

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

Address Corrections- Email changes - Questions:

You may forward questions to the club call our message line at 918-688-MARS ( 6277 )

Or go to the club website and Fill out an online form or just click on John Land and send an email.

Please leave a clear subject line and message with your name, phone number, your question - along with address or email

# Astronomy Club of Tulsa Membership Application/Renewal Info

Astronomy Club of Tulsa  Membership Application/Renewal Form  PLEASE PRINT  Name: Phone: (918)  Address:  City / State / Zip /OK/  E-mail address - print clearly  Check Lines below: For faster economical delivery you are notified by email when the Club newsletter is posted on the web.  Email saves the club mailing expenses. Of course if you do not have email we can mail you a copy of the monthly newsletter.  New Membership Renewal Membership  Adult Membership (\$35) includes Astronomical League membership. See <a href="http://astroleague.org/">http://astroleague.org/</a> for benefits of being a League Member.  Student Member (\$20)* includes Astronomical League membership.  Student Member only(\$15)* - without League membership.  Check Lines below for YES  I would prefer to receive E-mail notification when club newsletter is posted to the web.  Notice of club events and newsletters are usually sent by email. This helps assure you will be informed of late breaking news.
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I choose to receive my newsletter by E-mail ONLY instead of postal mail.
Check here if you also require a postal copy of the monthly newsletter.
Note: Using email newsletter saves the club about \$5 per year and gets to you more quickly.
Magazine subscriptions: Magazine rates may change. Prices available with membership only.
Sky & Telescope Subscription (\$33) / year Renewal Include Subscription Number.
Also includes 10% discount on most Sky & Telescope products.
Astronomy Subscription (\$ 34) / year (\$ 60 ) / two years
Renewal Include Subscription Number.
Astronomy Club of Tulsa - 25209 E. 62nd St - Broken Arrow, OK 74014
Or go to the club website and Fill out an online form or just click on John Land and send an email.
How did you hear of the Astronomy Club of Tulsa?
How long have you been interested or active in astronomy?
Do you have a telescope? Type
What astronomy club activities would you like to participate in?
Have you been a member of other astronomy clubs?
Where / when



# Night Sky Network

Astronomy Clubs bringing the wonders of the universe to the public



### ASTRONOMY CLUB OF TULSA

P.O. BOX 470611 TULSA, OKLAHOMA 74147-0611

For information , comments or suggestions about this newsletter please contact Jerry Mullennix (Editor) at the address above or by email at Astro.newsletter@pantherenergy.us

GRAVITY ITS NOT JUST A GOOD IDEA, IT'S THE LAW

# MEMBERSHIP INFORMATION

Astronomy Club of Tulsa membership (\$35/year) includes membership in the Astronomical League and subscription to ACT's "Observer" and AL's "Reflector". "Astronomy" (\$34/year) and "Sky and Telescope" (\$33/year) are also available through the club. For more information contact John Land at 918-357-1759. Permission is hereby granted to reprint from this publication provided credit is given to the original author and the Astronomy Club of Tulsa Observer is identified as the source.

Were on the web www.astrotulsa.com

# **CLUB OFFICERS**

POSITION	NAME	PHONE
President	Tamara Green	918-851-1213
Vice-President	Tom McDonough	918-665-1853
Treasure	John Land	918-357-1759
Secretary	Teresa Kincannon	918-637-1477

# **APPOINTED STAFF**

POSITION	NAME	PHONE
RMCC Facility Manager	Craig Davis	918-252-1781
Membership Chairman	John Land	918-357-1759
Observing Chairman	David Stine	918-834-1310
New Members	Denny Mishler	918-274-4772
<b>Observatory Director</b>	Teresa Kincannon	918-637-1477
Webmaster	Tom McDonough	918-665-1853
Newsletter Editor	Jerry Mullennix	918-237-8220
Night Sky Network	Teresa Kincannon	918-637-1477

### BOARD MEMBERS AT LARGE

LARGE
Steve Chapman
Craig Davis
Rod Gallagher
Jerry Mullennix
Richard Alford
Owen Green
Jim Miller
Denny Mishler
Tony White