

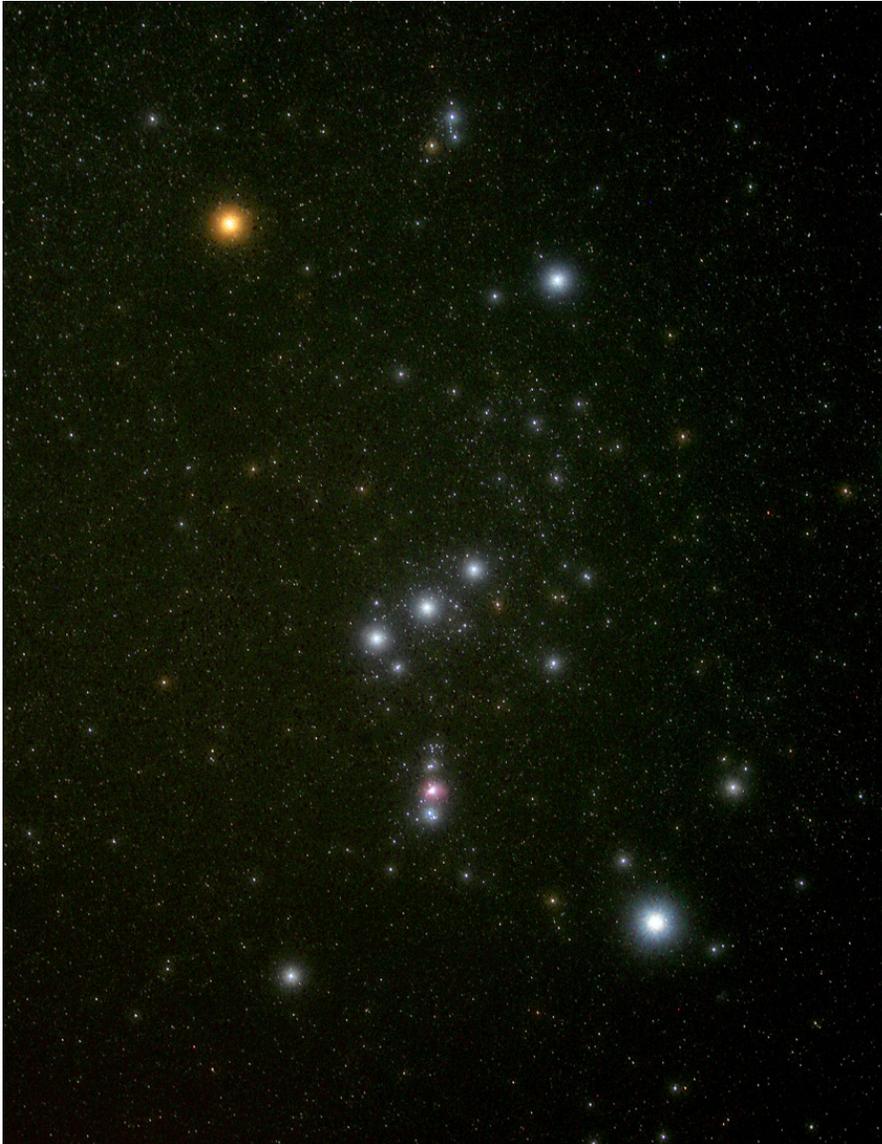


# Astronomy Club of Tulsa Observer



December 2008

## Picture of the Month



### Orion – The Hunter

Orion, a constellation often referred to as The Hunter, is a prominent constellation, one of the largest and perhaps the best-known and most conspicuous in the sky. Its brilliant stars are found on the celestial equator and are visible throughout the world. Its three prominent "belt" stars - three stars of medium brightness in the mid-section of this constellation - make this constellation easy to spot and globally recognized. From mid-northern latitudes, Orion is visible in the evening from October to early January and in the morning from late July to November.

According to the most common contemporary imagery: Orion is standing next to the river Eridanus with his two hunting dogs Canis Major and Canis Minor, fighting Taurus the bull. Other prey of his, such as Lepus the hare, can be found nearby.

There are other contemporary names for Orion. In Australia, the belt and sword of Orion are sometimes called the Saucepan, because the stars of Orion's belt and sword resemble this kitchen utensil as seen from the Southern Hemisphere. Orion's Belt is called Drie Konings (Three Kings) by Afrikaans speakers in South Africa, and French les Trois Rois (the Three Kings) in Daudet's *Lettres de Mon Moulin* (1866). The appellation Driekoningen (the Three Kings) is also often found in 17th- and 18th-century Dutch star charts and seaman's guides.

Historically it has had other names, perhaps the earliest known is the Babylonian "Shepherd of Anu", corresponding to an apparent representation of the constellation Auriga or an element of it, as a shepherd's crook. (From Wikipedia, the free encyclopedia)

This beautiful photograph of the constellation Orion is presented for your viewing pleasure complements of John Gauvreau and published with his permission. It was featured as Astronomy Picture of the Day for October 15, 2008. Drop John an eMail at [galileosclassroom@hotmail.com](mailto:galileosclassroom@hotmail.com) if you like and tell him what a great shot this is!

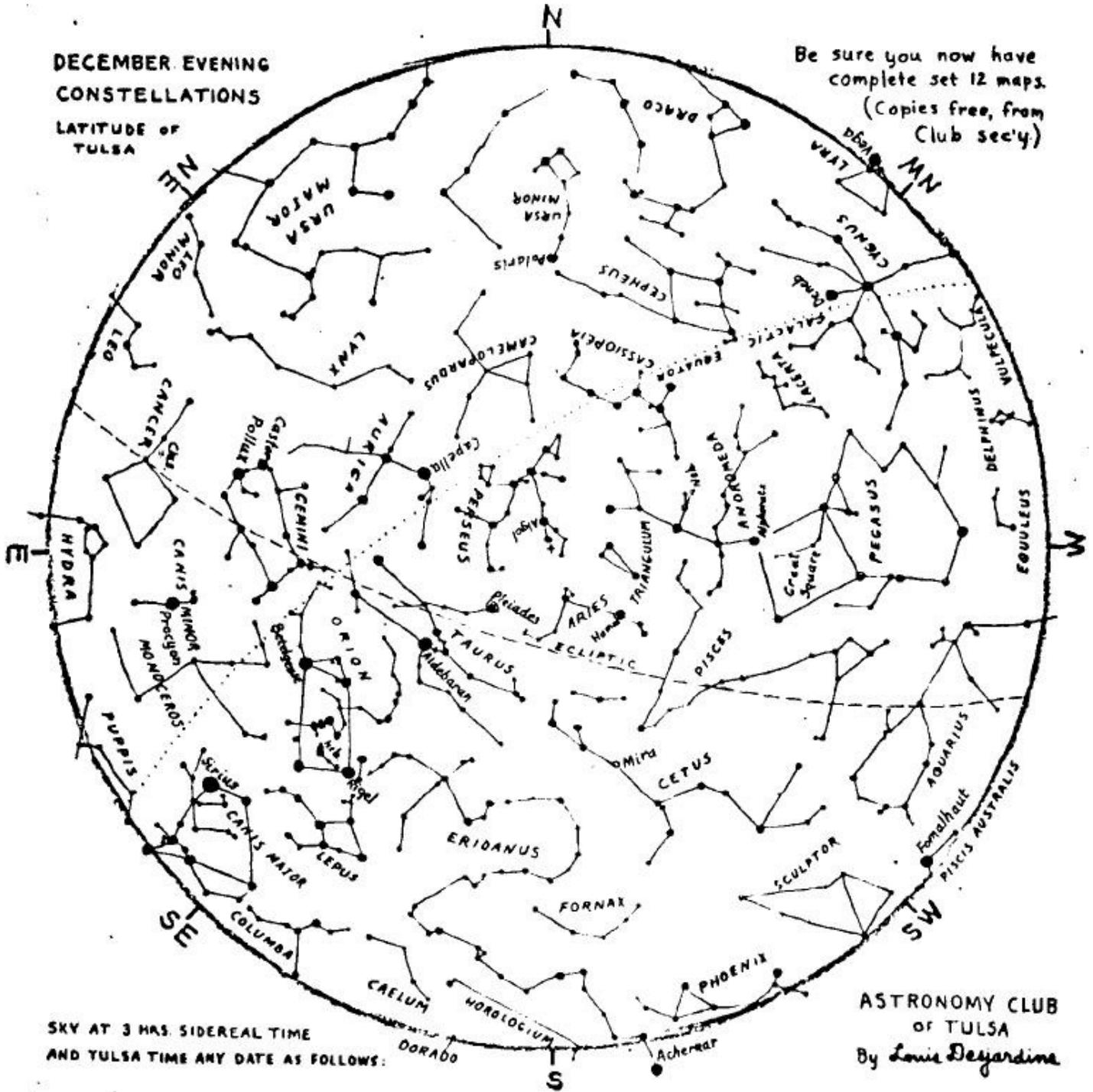
*Credit – John Gauvreau  
Hamilton, Ontario, Canada*

### Inside This Issue:

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### Important ACT Upcoming Dates:

ACT Meeting @ TCC - Fri. December 12, 2008 (7pm)  
Public Star Party... Fri. December 19, 2008 (p10)



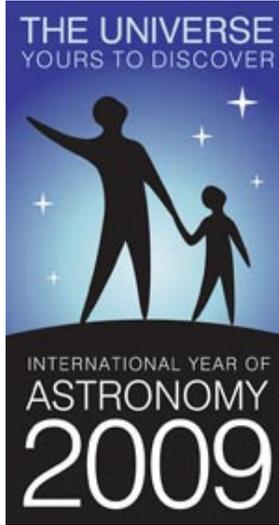
First Quarter – 12/03/08 – 21:26 UT  
 Full Moon – 12/12/08 – 16:37 UT  
 Last Quarter – 12/19/08 – 10:29 UT  
 New Moon – 12/27/08 – 12:22 UT

December 1<sup>st</sup> – Moon/Jupiter/Venus – Triple Conjunction  
 December 4<sup>th</sup> – Asteroid Pallas at Opposition  
 December 12<sup>th</sup> – Geminid Meteor Shower Peak  
 December 21<sup>st</sup> – Winter Solstice (N. Hemisphere) – 06:00 CST

## YEAR OF ASTRONOMY – INTERNATIONAL STYLE

*Peggy Walker – ACT IYoA Coordinator*

In 2003 the International Astronomical Union – IAU, General Assembly met in Sidney, Australia and had proposed an International Year of Astronomy since it is the 400th anniversary of the telescope. In 2005, UNESCO (United Nations Educational, Scientific and Cultural Organization) endorsed their recommendation and 2007 was the brainstorming/strategy planning meeting for this event. A committee has been preparing the world for this event scheduled to be kicked off this January of 2009. The opening ceremony is scheduled to be held in Paris, France with the hope of spreading to all regions in the world. The first level of impact is the countries and nations, continuing down to cities and local towns. The goal is to have continued astronomical events occurring at any given time in countless places throughout the year. As the clubs and groups in each town, country, nation and region participate they are to report and evaluate their success of the year's activities. The closing ceremony in 2010 will award groups and clubs for their performance and innovative strategies.



As for us here in the United States, our opening ceremony will feature the telescope that Galileo used to make his ground breaking discoveries. From there science centers, science museums, planetariums, observatories and astronomy clubs and groups are asked to host live web casts, live observations from remotely operated telescopes, outreach programs, classroom instruction, sidewalk astronomy nights and public observing sessions.

The International Sidewalk Astronomers will play a key role this year with The Hundred Hours of Astronomy. On Thursday, April 2nd to Sunday, April 5th there must be 24 hours of live web casts from research observatories around the world, observing events and outreach activities. In addition, 24 hours of sidewalk astronomy in various populated areas about town. The Official International Sidewalk Astronomers Night is April 4th, Saturday which is the second annual International Sidewalk Astronomers Night fondly called ISAN 2.

The Hundred Hours of Astronomy will be pretty cosmic when you think about how all over the world for a solid 100 hours, astronomy will be done. While we sleep, other parts of the world will be hosting their events and while they sleep, we'll do our part. In fact some clubs will feature solar viewing during the day from parks, libraries and parks.

The Astronomy Club of Tulsa currently has plans to be involved and support the international community by hosting our P.S.P. – Public Star Parties, conducting classroom discussions and by hosting monthly S.A.N. – Sidewalk Astronomy Nights. Everyone is invited to participate and get the word out. For more information on Public Star Parties or Sidewalk Astronomy please see the accompanying articles in this newsletter.



### **NASA AND JET PROPULSION LABS SUPPORT A.C.T.'s PUBLIC STAR PARTIES – Peg Walker**

The Astronomy Club of Tulsa has a proud history of offering observing parties every month to the public at the RMCC Observatory. In addition, A.C.T. provides groups and clubs with their own special viewing parties. For the International Year of Astronomy, we are going to step it up a notch. Not only will we continue to feature a public star party a month, we will also feature members with power point presentations from NASA and Jet Propulsion Laboratories. These sessions will be conducted in the observatory classroom on each of the Public Star Party nights.

These speakers have graciously volunteered to share these presentations, information and activities on various subject matters. Our featured speaker for January 2nd P.S.P. night is our newsletter editor and new board member, and extremely knowledgeable and kind man..... Dennis Karcher.

Dennis will cover the subject of the telescope and teach about the origins and parts of the telescope and space probes. This is our kick off for the 400th Anniversary of the Telescope and you and any one who can benefit from this discussion are welcomed to join him. Each module may have some observing to be done outside while others may not, so we are targeting a time of 7:30 p.m., with the sessions lasting 30 maybe 40 minutes long.

For your convenience, the rest of the year's sessions are listed below so don't be late!

Feb 27th *John Land* – **The Solar System** – he will cover the solar system and the moon and its phases

Mar 20th *Philip Dunbar* – **Observing Day and Night** – he will cover light pollution and shielding

Apr 3rd *Teresa Kincannon* – **Galaxies and Universes** – she will cover the difference between a solar system, galaxies and universes

May 1st *Gary Thomas* – **Our Sun** – he will discuss stellar death our sun compared to other stars

Jun 12th *Ann Bruun* – **Clusters of Stars** – she will take a trip around the triangle and talk about star life cycles

Jul 24th *Peggy Walker* – **Black Holes** – I will cover the Milky Way Galaxy's black holes, black hole hunting and can we escape a black hole?

Aug 28th *Tony White* – **Rocks and Ice in the Solar System** – he will talk about "shooting stars" and the Perseid Meteor Showers

Sep 25th *Tamara Green* – **Planets and Moons** – she will cover where to look for planets with star maps and discuss Jupiter

Oct 23rd *Owen Green* – **Fate of the Universe** – will tell you how the universe got started, where we are going and our inevitable collision with the Andromeda Galaxy

Nov 20th *Dennis Karcher* – **Life of Stars** – he will speak about the difference between supernovae, planetary nebula and black holes and how the stars are involved in each of these.

Dec 11th *Rod Gallagher* – **Discovering New Worlds** – he will talk about how NASA finds planets, what characteristics they look for and the possibility of extra-terrestrial life.

## Sidewalk Astronomy

ACT Plans for IYOa 2009

(S.A.N. to I.S.A.N.)

Back in the 1960's a very altruistic man and two of his students set to the streets of San Francisco with their hand-made telescopes to let the public view their universe. John Dobson, whom the Dobsonian is named after, designed a telescope that was inexpensive enough to get more telescopes into peoples hands. In 1968, John Dobson, and students Bruce Sams and Jeff Koloff formally founded the sidewalk astronomers of San Francisco. In 2005, Jeffery Jacobs produced a documentary film on John Dobson and not only has live feed of him on the streets, it also features John's contributions to sidewalk astronomy.



Originally, home-made telescopes were the ones used in the public setting. It not only provided a public service in astronomy, it sparked the art of telescope making. The main feature is to show the brighter, larger celestial objects in the sky to passers-by in spite of the light pollution. John never charged a penny to let the public view and that has carried on to this day. However, purchased scopes are now the main features of these nights.

The Sidewalk Astronomers made an International debut last year when they coordinated the world-wide International Sidewalk Astronomer's Night or I.S.A.N.-1, Amateur astronomers proudly exhibited their purchased and home-made telescopes in public venues all over the world. This year it falls on Saturday night, April 4th. So mark your calendars!

The Astronomy Club of Tulsa has their S.A.N.1, night scheduled at the Mohawk Park/Oxley Center with all telescopes on deck. This will be our featured event during the Hundred Hours of Astronomy. The sidewalk astronomers will have a few practice runs under their belt, by hosting some local "hot spots" that are currently being formalized. Our club is actively pursuing different areas to best accommodate our members and utilize the most heavily trafficked areas. Rick Walker is the coordinator for these events and is currently communicating with The Bass Pro Shop in Broken Arrow, The River Walk in Jenks, The Woodland Hills Mall, particularly the Cheesecake Factory and Utica Square in mid-town. The plan is to have regular spots so that we can advertise our location and to help bring foot traffic to these businesses for supporting us.

Other opportunities are being worked like Wooloroc Museum and Wildlife Preserve which is scheduled for Saturday, September 26th, 2009 as well as, sidewalk astronomy on the various school and campus grounds in April. Members who have other contacts or ideas are encouraged to contact Rick Walker.

The sidewalk astronomy nights are scheduled closest to the full moon because the public loves the moon! These nights should only be a couple of hours and tickets for our drawings should be handed out at this time. Although Mr. Dobson never charged, we are able to have a donation bucket there but are not to ask or solicit for donations. Of course, donations are greatly appreciated and desperately needed.

Those members who live quit a distance from any of these locations are encouraged to host a site that is near your home and has high foot traffic. The point is to get your scope in front of as many people as possible. If you need help let Rick know and maybe we can get some additional help for you. Currently, the sites will have two scopes or scope and binoculars with two operating the viewing and the other two conducting trivia questions. Your job as an amateur astronomer is to know what's out on those nights and have a plethora of information to share with the crowd. Trivia questions to the crowd

for an extra drawing ticket might be a fun way to generate some enthusiasm while you're there. Of course our hope is to see some of these people in our meetings as new members.

Our current S.A.N. calendar weekends are:

January 16<sup>th</sup> - 18<sup>th</sup>  
 February 13<sup>th</sup> - 15<sup>th</sup>  
 March 6<sup>th</sup> - 8<sup>th</sup>  
 April 2<sup>nd</sup>, 4<sup>th</sup> & 5<sup>th</sup>  
 May 15<sup>th</sup> - 17<sup>th</sup>  
 June 5<sup>th</sup> - 7<sup>th</sup>  
 July 10<sup>th</sup> - 12<sup>th</sup>  
 August 7<sup>th</sup> - 9<sup>th</sup>  
 September 11<sup>th</sup> - 13<sup>th</sup>  
 October 9<sup>th</sup> - 11<sup>th</sup>  
 November & December TBD

Peggy Walker - ACT IYOa Coordinator

## Astronomy on PBS - December 2008

NOVA Tuesday's @ 7:00 PM

December 23 - *The search for Absolute Zero.*

When this was originally air it was a two day show. The first part traces the whole history of cold from a world wide industry of shipping Ice - the first artificially cooled ice. Then goes into the development of the idea of absolute zero and the quest to reach unfathomably cold temperatures routinely used in physics and astronomy.

December 30 - *Is there Life on Mars?*

This show chronicles the first four years of the Spirit and Opportunity Mars Rovers - there challenges - hardships and triumphs.

Check your PBS schedules on line. Nova is usually repeated Saturday afternoons on the Weds night on the PBS Digital channel as well. There are also occasional 1:00 AM repeats. However the Christmas Season shows have preempted much of the regular schedules. <http://www.oeta.onenet.net/schedules/index.php>

John Land

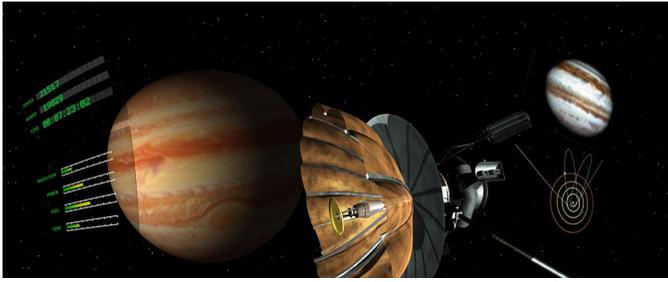
Predicted MAXIMA of long period variables - December 2008  
 North of -55° Declination ~ Tulsa, OK Viewing Limit  
 (Predicted Maxima > 8.0 - Easy Binocular Range)

Designation	Name	Code	Range	Est Max Date
0214-03	Omi Cet		<3.4-9.3>	Dec 22
0231+33	R Tri		<6.2-11.7>	Dec 14
0250-50	R Hor	%	<6.0-13.0>	Dec 25
0701+22A	R Gem		<7.1-13.5>	Dec 22
0703+10	R Cmi		<8.0-11.0>	Dec 14
1432+27	R Boo		<7.2-12.3>	Dec 5
1518-22	RS Lib	&	<7.5-12.0>	Dec 9
1536-54	T Nor	%	<7.4-13.2>	Dec 8
*1657+22	SY Her		7.8-13.2	Dec 6?
1717+23	RS Her		<7.9-12.5>	Dec 3
1821-33	RV Sgr	@	<7.8-14.1>	Dec 9
1901+08	R Aql		<6.1-11.5>	Dec 7
1934+49	R Cyg		<7.5-13.9>	Dec 31
1949-29	RR Sgr	#	<6.8-13.2>	Dec 19
*2137+53	RU Cyg		<8.0-9.4>	Dec 7?
2338-15	R Aqr		<6.5-10.3>	Dec 22
2353+50	R Cas		<7.0-12.6>	Dec 31

Codes:  
 # - needs more observations  
 & - needs more observations urgently  
 @ - needs more observations very urgently  
 % - has good CCDV or multicolor photometry, but more visual observations are needed (usually more visual observations are needed very urgently)

Source: AAVSO Bulletin 71

# What's Up at the Planetarium? "Big" is Back



The universe is big, but how big is "Big"? Beginning December 1, "Big" will be back on the big screen at the James E. Bertelsmeyer Planetarium. "Big" explores the furthest observable reaches of the universe to find the answer about the size of the universe. Narrated by Richard Attenborough, "Big" combines a light-hearted storytelling style with computer animation, claymation, laser graphics and a surround sound musical score to tell the story.

The Bertelsmeyer Planetarium offers a variety of presentations in the new tilted, 50-foot, seamless dome, including "Secret of a Cardboard Rocket", an animated winner for families and "Extreme Planets", a search for other planets in our galaxy. "Night Skies over Green Country" is also presented daily describing what will be visible in the sky that night.

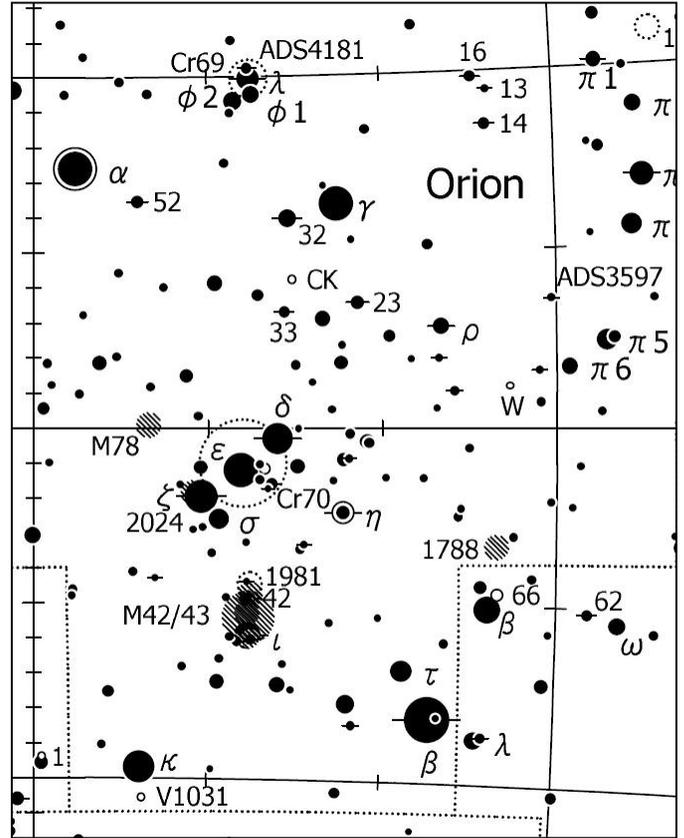
Located at 3624 N. 74<sup>th</sup> E. Ave., Tulsa, Okla., across from the Tulsa Zoo and Mohawk Park, the Tulsa Air and Space Museum & Planetarium is open Tuesday through Saturday (closed Mondays) 10 a.m. – 5 p.m. and 1-5 p.m. on Sunday. Show times vary and are posted at [www.TulsaAirAndSpaceMuseum.com](http://www.TulsaAirAndSpaceMuseum.com).

Chris Pagan - Planetarium Director / TASM & Planetarium

## The Stellar Works of Toshimi Taki

I have frequently come across self published reference works while surfing the internet for astronomy material and while many of the works are quite interesting, technically accurate and valuable additions to the whole of amateur astronomical references occasionally an contributor produces a true work of art as well as a classic technical reference volume. One of the most amazing works that I've come across during the internet age is a set of star atlases produced by a gentleman named Toshimi Taki. He is an Aircraft Structure Engineer by profession and lives in a small city near Nagoya in Japan. A long time amateur astronomer and member of the Oriental Astronomical Association, which is the oldest amateur astronomy club in Japan, Mr. Taki is also a telescope maker, deep sky observer and has published multiple articles in Sky & Telescope.

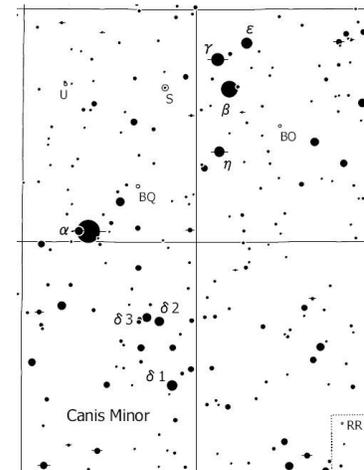
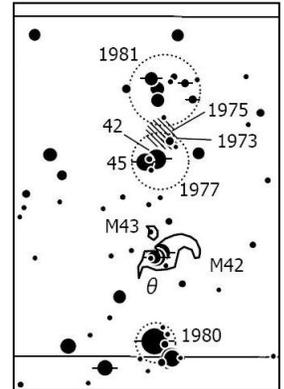
Mr. Taki's has produced a set of star atlases that he has offered to fellow amateur astronomers without charge that are easily superior to many commercially available reference volumes. His first production is a replacement for the much beloved Norton's Star Atlas of the 1950's. (Although I still have a well-thumbed copy, the printing process used a glue that became brown and brittle with age – and so has left a dark brown strip in the center of the star chart...) Like the classic Norton's, Taki's Star Atlas uses 12 North-South charts in a Modified Transverse Mercator Projection and is available in "pdf" format that will print out in A3 paper (or close to 11"x17" or B size paper in US units). The star charts map down to magnitude 6.5 – essentially visual limit for fairly dark skies. The full set is at the site: <http://www.asahi-net.or.jp/~zs3t-tk/atlas/atlas.htm> and a sample is presented for inspection following.



(Orion from Chart # 2N – Taki's Star Atlas)

This is a fantastic reference for hunting the Messier Objects and casual stargazing – one of my favorite reference sources.

A much more in depth star atlas is Taki's 8.5 Magnitude Star Atlas at: [http://www.asahi-net.or.jp/~zs3t-tk/atlas\\_85/atlas\\_85.htm](http://www.asahi-net.or.jp/~zs3t-tk/atlas_85/atlas_85.htm) which has 146 charts and maps over 88,000 stars. Easily charts all stars visible in binoculars with superb detail. Set to print on A4 (~8-1/2"x11") paper from "pdf" format charts. One major benefit to the exquisitely produced "pdf" format charts is that they are crisp at all magnification levels in Adobe Acrobat (the normal viewing program). In addition to the 146 normal charts are three additional "detail" charts of Coma-Virgo, Central Orion and Eta Carinae. If you're

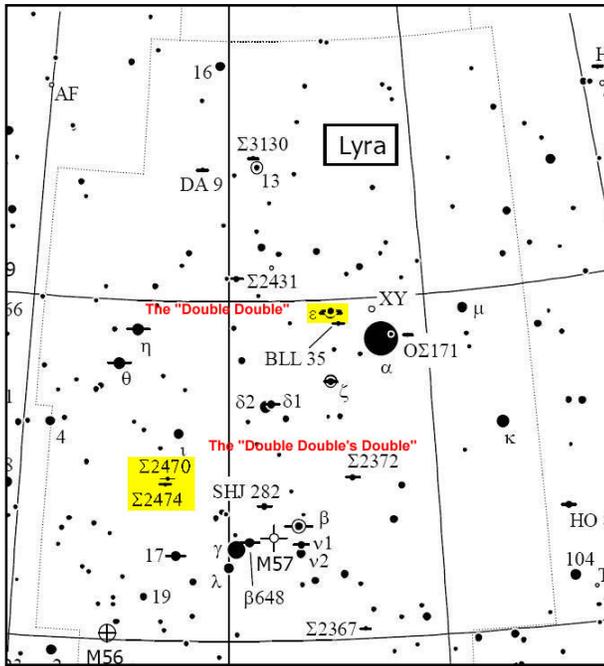


Inhunting Herschel Objects – this is absolutely the set of charts for you! You can print out the areas you're looking to hunt DSOs in and bring them to the telescope on a clipboard and keep observing notes right on the charts. The 8.5 magnitude limit is perfect for a 50mm finder scope to map out a star-hopping route. This scale is the perfect bridge between too little and too much detail and the ability to print charts out on paper

prevents having to fumble with a bulky book at the eyepiece (which is the main drawback to large bound star atlases).

The best-specialized atlas I've seen is Taki's Atlas of Double Stars: [http://www.asahi-net.or.jp/~zs3t-tk/atlas\\_dbl\\_star/dbl\\_star\\_atlas.htm](http://www.asahi-net.or.jp/~zs3t-tk/atlas_dbl_star/dbl_star_atlas.htm) and a set of up to date orbits for close / rapidly orbiting binary pairs at: [http://www.asahi-net.or.jp/~zs3t-tk/binary\\_orbit/binary\\_orbit.htm](http://www.asahi-net.or.jp/~zs3t-tk/binary_orbit/binary_orbit.htm)

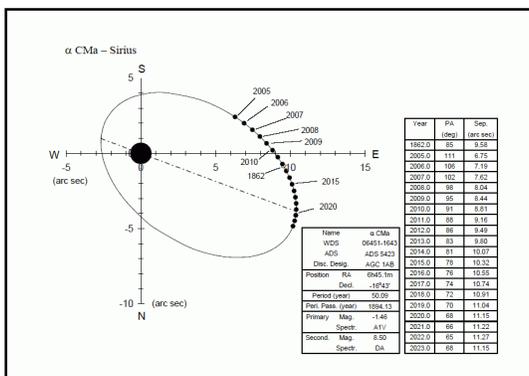
As a check, I looked up a favorite of mine, The "Double-Double's Double" in Lyra – a set of two double stars that mimic Epsilon-1&2 Lyra and are a bit fainter but much easier to resolve. Sure enough the atlas has the brighter star pair mapped ( $\Sigma 2474$  Mag 6.8+8.1) just below iota Lyr. I've created an edited chart for personal use that adds the fainter star pair ( $\Sigma 2470$  Mag 7.0+8.4). The edit is shown below:



(Lyra from Chart #9 – Taki's Atlas of Double Stars)

A special feature of Toshimi Taki's work includes figures of apparent orbits of binary stars that are invaluable for close binaries that change rapidly over time. This data is presented on his web site at: [http://www.asahi-net.or.jp/~zs3t-tk/binary\\_orbit/binary\\_orbit.htm](http://www.asahi-net.or.jp/~zs3t-tk/binary_orbit/binary_orbit.htm)

The old standard for double star apparent orbital data was Burnham's Celestial Handbook but unfortunately it has aged and is now out of date for many rapidly orbiting pairs. For example Sirius is beginning to open up enough to observe Sirius B with telescopes in the range of amateur astronomers. Burnham's Handbook however only plots the orbit through 1999 (although a rough estimate can be made for future dates...). Taki has computed the orbit into the 21<sup>st</sup> century, which makes hunting the "Pup" much easier as seen below:

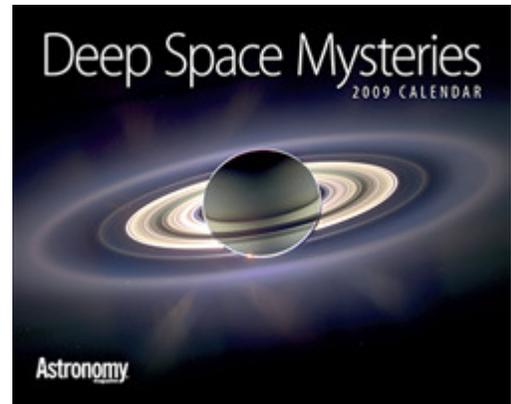


In conclusion, I can only say that the Star Atlases and other works produced and generously shared by Taki are some of the best that I've ever seen produced and definitely rank right up there with Wil Tirion's works. If you're not already familiar with the Taki Star Atlases, I highly recommend them to both beginning and experienced amateurs. You could easily pay hundreds of dollars for star atlases published commercially and still not obtain as high quality work as Toshimi Taki has shared with the amateur community at no charge.

Thank you, Taki San!

Reference/Source – <http://www.asahi-net.or.jp/~zs3t-tk/index.htm>  
Toshimi Taki's Home Page.

D. J. Karcher – November 27, 2008.



2009 Deep Space Mysteries Wall Calendars sold out quickly. However we will be making a second order so contact John Land at 357-1759. If you want one, price is still \$ 8.

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### Call for Newsletter Input & Articles

OK, folks... It's your newsletter, so what would you like to see (or not see) in upcoming issues? Any ideas, articles, pictures, road-trip reports, visits to other clubs, complaints, changes or anything that would improve our newsletter would be most welcome and appreciated.

The newsletter will constantly evolve over time as the needs of ACT dictate. I've currently abandoned switching from Microsoft Word for Windows to Publisher for the time being (a much-much more difficult transition than I had originally anticipated...). Look's like I'll need to take a MS Publisher class to effectively make the transition.

Note the new "Observing Pages" and "International Year of Astronomy" articles and please take the opportunity to input suggestions and articles. I can work with anything you care to submit – no matter how rough. Thanks – and let me know what's on your mind for improving the Observer!!

Dennis Karcher / [djkarcher@cox.net](mailto:djkarcher@cox.net) / 918-619-7097 cell

## Observing Pages

### Information Exchange

The Astronomy Club of Tulsa has started a new Yahoo Group for the club. For those of you who are unfamiliar with Yahoo groups, it is a forum that allows for messages, photos and files that can be shared among the group's members. As stated in the group's description, "This group is for the members of the Astronomy Club of Tulsa to ask questions, share ideas, get information, plan observing sessions, or just communicate in general. Informal club business communications may also be announced here." This group can be found on the web at <http://tech.groups.yahoo.com/group/AstroTulsa/>. It is open to all club members so be sure to check it out! Tony White, our new Club President is the group's moderator.

### December 2008 Observing List

	Caldwell	Deep Sky Binocular	Double Star	Messier	Herschel
1	C67 (NGC1097)	Tr2	Gamma Ceti	M34	NGC1023
2	C24 (NGC1275)	Tr3	Eta Persei	M77	NGC1052
3	C5 (IC342)	Stock 23	Struve 331	M45	NGC1027
4	C41	Mel20	32 Eridani		NGC1055
5		SAC1031	Chi Tauri		NGC1084
6		Mel25			NGC1245
7		NGC1342 *			NGC1342 *
8		NGC1528 *			NGC1407
9					NGC1444
10					NGC1502
11					NGC1501
12					NGC1513
13					NGC1535
14					NGC1528 *
15					NGC1545

\* - Multiple entries

Details of this list are located in a folder in the AstroTulsa Yahoo group's files section, "ACT Observing Lists." The list contains too many objects to "observe" in one evening but we plan to recognize anyone who observes 20 or more of these objects. The reason that there are so many objects is to give the observer a variety of objects that can also be used for Astronomical League (AL) Observing Clubs. For more information on the Astronomical League and the observing clubs, check it out on the web at: <http://www.astroleague.org/observing.html>. All of the objects cross the meridian between 9PM and 11PM. For this month, the list contains 8 double stars (AL Double Star Club), 3 Messier objects (AL Binocular Messier & AL Messier Clubs), 8 deep sky objects (AL Deep Sky Binocular Club), 4 Caldwell objects (AL Caldwell Club) and 15 Herschel objects (AL Herschel-1 Club). Several of the Herschel objects are also on the AL Deep Sky Binocular list, so observing any of these with binoculars is the same as two observations.

As we continue with these lists, one should be able to complete several of the observing clubs in only one year. Of course the Herschel list will take longer.

Also, check out on of this month's Deep Sky Binocular objects, SAC1031 a.k.a. Kemble's Cascade. This asterism contains about 20 stars nearly in a row stretching over five times the width of a full moon. At the end of the chain of stars is a relatively compact open cluster of stars known as NGC 1502. This is one of the Herschel 1 objects also on this month's list.

Please take a look and give feedback to Ann Bruun or Rod. Also, please provide a copy of your observing logs to Ann Bruun. - Thanks, Rod Gallagher

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### *How A Dot Finder Changed My Life by Ann Bruun, December 2008*

My first telescope was a 6" Meade on an equatorial mount. It came with a 6X30 finder scope. I read my scope manual thoroughly and aligned the finder just so. The first night out in my backyard I planned to look at some bright stars and get familiar with my scope. Looking thru my finder was confusing though. Not only was everything magnified 6X but it was also flipped upside down and backwards. *So is that bright star in the sky the same as that bright star in my finder and that bright star in my eyepiece?* The answer was usually no. I just figured I needed a little more experience and it would get easier with time.

Weeks went by and I found myself crawling around on the ground trying to get in just the right position to sight along the tube which more often than not still did not get me centered on the star I was shooting for. I was certainly getting some good exercise but I was not finding many objects. When I did find an object it was just by panning around looking through the eyepiece until I got lucky. Many of my observing sessions ended with a bad case of motion sickness.

After a few months it still was not getting any easier. I had decided I was just really bad at using my telescope and I was thinking about giving up. But on the other hand there was that thrill I got when I did find an object. If only there was someone I could talk to.... As a last ditch effort I joined the astronomy club, if only I had joined sooner.

By my second star party I had met a few of the members and felt comfortable enough with them to discuss my “little problem”. Without even a pause the answer was given, “You need to get a dot finder.” What? It’s a finder that does not magnify and superimposes a red dot on the sky were you are aiming. And so I was introduced to the miracle known as a dot finder.

My next observing session was a thrill. I just put the dot finder where I wanted to look and voila I was there. Suddenly I was able to find objects without spending all evening trying to get the scope aimed in the right direction. It was like magic, I couldn’t believe how easy it was to use my scope. Before long I started collecting the Messier objects

A dot finder is definitely the way to go. I’m not saying ditch your magnifying finder scope altogether, you will need it eventually when looking for objects that require higher magnification to become visible. Then your finder will help get you into the right star field. But when you are first starting out - forget it. The dot finder can lead you to plenty while you learn the sky and gain experience observing.

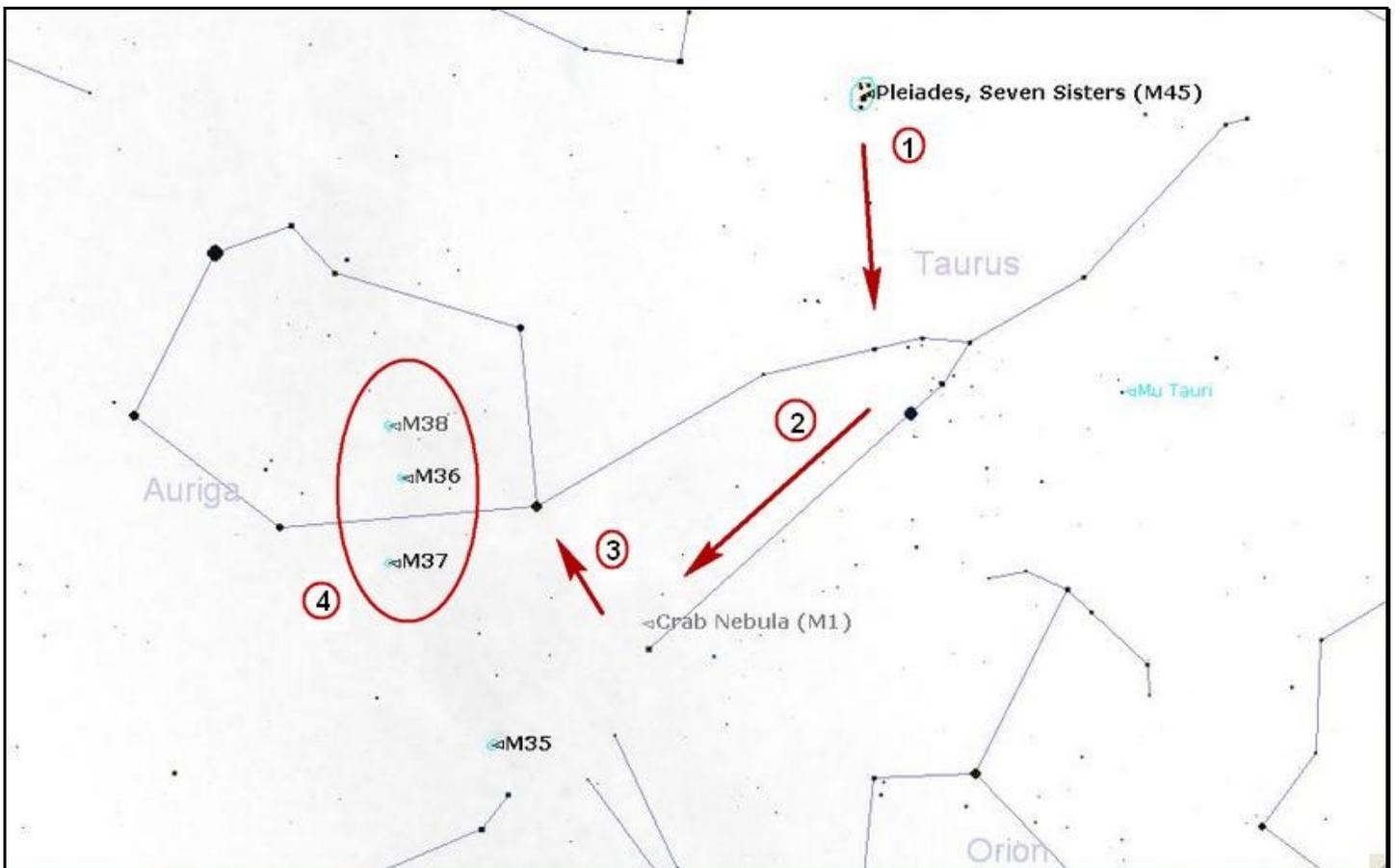
There are different finders that superimpose a dot, crosshairs or circles in the sky where you are pointing. The Telrad is a fancy dot finder that gives you three rings each representing a different number of degrees across. This can be used to help judge distance from one object to another. Choose the configuration that suits you, they all pretty much work the same way and they can all change your life if your having trouble finding objects.

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## Short Star Hop – Taurus/Auriga

The nice thing about this star hop is most of these objects can be seen from the city. M1 is probably out of reach in light polluted skies but the others are usually visible.

1. Start at M45, the Pleiades open cluster. It is easily visible even in the city. Down below M45 is the “V” of Taurus dominated by Aldebaran a bright red star – the red eye of the bull.
2. Follow the lower branch of the “V” out to the bright star that is the tip of the bull’s horn. Just up from the tip of the horn is M1.
3. Cross to the tip of the other horn and you will find the constellation Auriga. You can help orient yourself to Auriga by using Capella, the bright star on the top left of the constellation.
4. There are three fabulous open clusters lined up in Auriga.



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## Lands Tidbits – by John Land

### Welcome Recent New Members: Jennifer Bishop & Joseph Running III

Our membership rates for 2008 – 2009 will be as follows:

**Adults** - \$35 per year (includes Astronomical League Membership)

**Sr. Adult** - discount \$25 per year for those 65 or older (includes Astronomical League Membership)

**Students** - \$15 (without Astronomical League membership)

**Students** - \$20 (with Astronomical 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. If an additional member of the family would like to join with voting rights the additional cost is \$15, and/or additional Astronomical League memberships within a family are \$5 each.

**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 / year. "www.skyandtelescope.com"

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

Note: You may renew your Sky & Telescope subscription directly with out having to mail in the subscriptions to the club.

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

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 to:

**Astronomy Club of Tulsa**

**25209 E 62nd St**

**Broken Arrow, OK 74014**

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### *Address Corrections- Email changes – Questions:*

You may forward questions to the club by going to our club website (<http://www.astrotulsa.com/>) 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 email.

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## *Season's Greetings from The Hubble Space Telescope!*



# ASTRONOMY CLUB STAR PUBLIC PARTY

**FRIDAY DECEMBER 19<sup>TH</sup>** - ALTERNATE DATE WILL BE SATURDAY DECEMBER 20<sup>TH</sup> IF SKY IS CLOUDY ON FRIDAY.

GATES OPEN AT 4:30 PM SUNSET -5:12 P.M. / END CIVIL TWILIGHT - 5:41 P.M.

LAST QUARTER MOON ON 19 DECEMBER 2008 AT 4:30 A.M. CENTRAL STANDARD TIME.

Due to the uncertain weather reports, always check your local weather reports for sky conditions. Our club has an excellent resource for predictions of cloud cover on the observe section of our website: (<http://www.astrotulsa.com/Observe/observe.asp>). Since night-time temperatures can dip to the mid 20's or colder you should plan to bring a heavy coat and dress in layers. **IT GETS VERY COLD ON OUR OBSERVATORY HILL!!**

- Beginners Telescope Set Up on Center Pad: Several of our new members and guests have new telescopes they are trying to learn how to use. We would like to invite you to set up your equipment near the center concrete observing pad. Members let's all take time to meet these novice astronomers and help them get a good start with their equipment.
- Wireless Internet now available at the Observatory: For laptop users - Rod Gallagher has made arrangements for wireless Internet to be broadcast on the observing field. Details for log on are available at the observatory. This is available for members to use for astronomy, observing and weather information and should not be abused for other types of browsing and gaming.
- Things to bring to a star party: Of course a telescope or binoculars are great for observing but you don't have to have one to enjoy the evening. You don't have to own a telescope to enjoy an observing night. Our members are eager to share their views with others. There will be plenty of people willing to share the view if you just ask. Also bring a red colored or covered flashlight to see your way around. We have plenty of folding chairs and a clean restroom.
- Children are always welcome but must be supervised and must stay on observatory grounds. It's always wise to have an alternate activity such as a favorite book or tapes for younger children who may tire early. Closed toed shoes are preferred and a light jacket as needed.
- We would like to encourage our new members and guests to join us
- Plan to arrive before dark. We have plenty of chairs and a classroom area.
- We have a microwave and you can bring your own snacks. You need to bring your own drinking water!

**PARKING MAY BE AT A PREMIUM.** Reserve Parking is available next door in old ATT lot for those without equipment or planning to leave early. PLEASE DO NOT PARK VEHICLES near the center-observing pad blocking the view and traffic access.

**SAFETY ISSUE:** When large groups are present it is better to turn on your park lights or headlights on low beam rather than to try driving in or out without lights... especially if those groups include children. Just warn everyone when you are getting ready to leave.

**NEVER try driving down the hill without lights.**

*A donation of \$1.00 per guest would be appreciated to help us maintain the observatory.*

## ACT Word Puzzle by Peggy & Rick Walker

### See what you see

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

W U X U J J Y Z V W T S C N U K S L L U N L  
U K Y L W N U Z U J M W U X U Z K G W S W T S P N  
U F Z U B L S N E Y W P U Z L P L W U S Z A U P Z  
Y Z P J C U L L P B P I P W M K U N P W P L  
W U X U J J Y Z V W T S J Z U W W U L S S  
F T Y W W T S M V U L S S Y Z V Z U W W U  
G Z V S N L W Y Z V F T Y W W T S M V U G Z V S N L  
W Y Z V Y Z V W U K P Z V F T Y W W T S M  
V U Z U W V P L X U E S N R Y I P I S U

**(1564-1642)**

(Answer Page 12)



*Earth as seen by Apollo 8 – 40<sup>th</sup> Anniversary December 1968 – Credit NASA*

How many of the ACT members remember the Christmas Eve broadcast on network television from Apollo-8? (Back in the days before there was “Cable-TV”...) NASA and the Mercury, Gemini and Apollo space programs were one of the main reasons I got interested in astronomy. Let’s all pitch in with the upcoming International Year of Astronomy and see if we can inspire a new generation of amateur astronomers to follow in our footsteps!

*The crew took turns reading from the Book of Genesis and Frank Borman closed with: "...from the crew of Apollo 8, we close with good night, good luck, a Merry Christmas, and God bless all of you - all of you on the good Earth."* For those of you too young to remember this broadcast, it's available from NASA at: [http://nssdc.gsfc.nasa.gov/planetary/lunar/apollo8\\_xmas.html](http://nssdc.gsfc.nasa.gov/planetary/lunar/apollo8_xmas.html)

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### CLUB OFFICERS

POSITION	NAME	PHONE
President	Tony White	918-258-1221
Vice-President	Tom McDonough	918-665-1853
Co-Treasurers	John Land Jim Miller	918-357-1759 918-627-4551
Secretary	Teresa Kincannon	918-637-1477

### BOARD MEMBERS AT LARGE

NAME	PHONE
Ann Bruun	918-834-0757
Steve Chapman	918-342-1643
Rod Gallagher	918-369-3827
Bill Steen	918-251-3062
Chris Proctor	918-810-6210
Rick Walker	918-451-9235
Dennis Karcher	918-619-7097

### APPOINTED STAFF

POSITION	NAME	PHONE
RMCC Facility Manager	Craig Davis	918-252-1781
Membership Chairman	John Land	918-357-1759
Observing Chairman	Ann Bruun	918-834-0757
New Members (co-Chairmen)	Owen Green Rick Walker	918-851-1213 918-451-9235
Observatory Director	Teresa Kincannon	918-637-1477
Webmaster	Richard Alford	918-855-9986
Newsletter Editor	Dennis Karcher	918-619-7097
Night Sky Network	Teresa Kincannon	918-637-1477

### 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.

The Astronomy Club of Tulsa is a member of the Astronomical League and the Night Sky Network



<http://www.astroleague.org>

<http://nightsky.jpl.nasa.gov>

ACT welcomes your questions, suggestions, comments, and submissions for publication.  
Please send all inquiries to [Newsletter@astrotulsa.com](mailto:Newsletter@astrotulsa.com)

**ACT Puzzle Answer**

To command the professors of astronomy to confute their own observations is to enjoin an impossibility, for it is to command them not to see what they do see, and not to understand what they do understand, and to find what they do not discover. Galileo (1564-1642)

Deadline for January Article submissions: December 24, 2008  
Target Publication for January Observer = December 30, 2008  
eMail article submissions to: [djkarcher@cox.net](mailto:djkarcher@cox.net)