

GuideStar



June, 2014

Volume 32, #6

At the June 6 Meeting

Science Fair Winners and Texas Star Party Review

Debbie Moran and Steve Goldberg

The Houston Astronomical Society presents awards at the Houston Science and Engineering Fair to students whose exhibits are astronomy and space related. Some of those awardees will attend our June meeting and tell us about their work.

The Texas Star Party ended on June 1, 2014, so on



Welcome sign in Fort Davis
Credit: Kent Francis

the date of the meeting the TSP will be 5 days past. Come and see some photos from the event and some astrophotos taken at the

event. If you went to TSP or if you missed it, you'll want to see this program.

The *GuideStar* is the winner of the 2012 Astronomical League Mabel Sterns Newsletter award.



The Houston Astronomical Society is a member of the Astronomical League.

Highlights:

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HAS Web Page:

<http://www.AstronomyHouston.org>

See the *GuideStar's* Monthly Calendar of Events to confirm dates and times of all events for the month, and check the Web Page for any last minute changes.

All meetings are at the University of Houston Science and Research building. See the last page for directions to the location.

Novice meeting: 7:00 p.m.

"Light Pollution—What You Can Do" —
Debbie Moran

See page 6 for more information

General meeting: 8:00 p.m

See last page for directions
and more information.

The Houston Astronomical Society

The Houston Astronomical Society is a non-profit corporation organized under section 501 (C) 3 of the Internal Revenue Code. The Society was formed for education and scientific purposes. All contributions and gifts are deductible for federal income tax purposes. General membership meetings are open to the public and attendance is encouraged.

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Dues and Membership Information

Annual Dues:Regular\$36
 Associate.....\$6
 Sustaining\$50
 Student.....\$12
 Honorary..... N/C

All members have the right to participate in Society functions and to use the Observatory Site. Regular and Student Members receive a subscription to *The Reflector*. *The GuideStar*, the monthly publication of the Houston Astronomical Society is available on the web site. Associate Members, immediate family members of a Regular Member, have all membership rights, but do not receive publications. Sustaining members have the same rights as regular members with the additional dues treated as a donation to the Society. *Sky & Telescope* and *Astronomy* magazines are available to members at a discount.

Membership Application: Send funds to address shown on last page of *GuideStar*. Attention - Treasurer, along with the following information: Name, Address, Phone Number, Special Interests in Astronomy, Do you own a Telescope? (If so, what kind?), and where you first heard of H.A.S. You can also join (or renew at the organization web site, www.astronomyhouston.org.

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Other Meetings...

Johnson Space Center Astronomical Society meets in the the Lunar and Planetary Institute on the 2nd Friday of each month. Web site: www.jscas.net

Fort Bend Astronomy Club meets the third Friday of the month at 8:00 p.m. at the Houston Community College Southwest Campus in Stafford, Texas http://www.fbac.org/club_meetings.htm.
 Novice meeting begins at 7:00 p.m., regular meeting begins at 8:00 p.m. Website: <http://www.fbac.org>

North Houston Astronomy Club meets at 7:30 p.m. on the 4th Friday of each month in the Teaching Theatre of the Student Center at Kingwood College. Call 281-312-1650 or E-mail bill.leach@nhmccd.edu. Web site: www.astronomyclub.org

Brazosport Astronomy Club meets the third Tuesday of each month at the Brazosport planetarium at 7:45 p.m. The Brazosport planetarium is located at 400 College Boulevard, Clute, TX, 77531. For more information call 979-265-3376

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GuideStar deadline ★
 for the July ★
 issue ★
 is June 15th ★
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President's Message

by Bill Pellerin, President

Amelia Goldberg—Meritorious Service Award

HAS member Amelia Goldberg was honored by the Texas Star Party for Meritorious Service to the event over many years. Amelia has been responsible for housing registration for the TSP for many years and has run the registration desk during the event. She also received the designation of 'Honorary Board Member', only the second person every given that recognition. The first was Deborah Byrd (earthsky.org), the founder of the TSP.



Scott Mitchell
presents Amelia
Goldberg with the
Meritorious Service
Award

Many HAS Members Attend the Texas Star Party

I'm writing this from the Texas Star Party site. We're just a few days into the event, but I've already seen some old friends from other parts of the state / country / world. There are a lot of HAS members who are here as well. Here's what we've had so far.... Sunday night: some observing with some late clouds and road weariness drove observers away from the observing field. Monday night was much better with a few passing clouds from time to time but observers were able to begin the TSP list or the Advanced Observing (Larry Mitchell's list) and some were out until dawn. Tuesday night — clear dark skies all night. Wednesday night, Thursday night, Friday night, Saturday night — the same. Lots of late nights under the stars.

So far, there are only a few vendors on site (notably Vixen, Celestron, and AstroCards).

Excellent presentations by our Novice and Education chair, Debbie Moran — one was an introduction to amateur astronomy, and the second one was about her eclipse chasing trips. The theme of the evening presentations is a celebration of the McDonald Observatory's 75th anniversary. There were speakers from UT on 3 nights — Bill Wren talking about the threat of light pollution near the observatory, Rachael Livermore presenting about early galaxies in the universe, and Tom Barnes who talked about the history of the McDonald Observatory.

It got dark late, but the nights are cool (not cold) and comfortable — light jacket weather. The Milky Way rose earlier than TSPs that occur earlier in the year.

John Waggoner's list includes several galaxies (including the antennae), planetary nebulae (including the Cat Eye). If you want to get a copy of the list, it's available at the Texas Star Party web site (texasstarparty.org). You won't get the pin for the list unless you observe the objects at the Texas Star Party. My 'Shallow Sky' object this

month is one from John's list — the Blue Racquetball, also known as NGC6572. It seemed to be a more difficult list this time around and there were at least two of the objects that were very challenging for me to see in my small telescope.

Parking for HAS Meeting Changed!!

Parking for the HAS meeting is in a new place due to the construction of the new football stadium. This new parking place will be the permanent location for parking going forward. See the information in this *GuideStar* or on the HAS web site.

Cheers,

..Bill Pellerin

President

Check the web site: www.astronomyhouston.org

The HAS website not only has news and information about our society, but also a variety of features to manage your membership and connect with other club members. Current members can post photos, trade gear, pay dues, manage discount magazine subscriptions, swap stories in the forum, and more.

Questions about the site? Need a hand to get your account set up?

Contact webmaster@astronomyhouston.org.

The HAS web site is the winner of the 2012 Astronomical League award for excellence.

Observations... of the editor

by Bill Pellerin, GuideStar Editor

Texas Star Party 2014—Done

Splendid! The one word description of the 2014 Texas Star Party. What matters to most of the attendees is the skies, and the skies were just great. Yes, there were a few passing clouds from time to time, but these got out of the way to reveal a clear, dark sky.

Many of the observers reported that they were able to complete several observing lists (including Larry Mitchell's advanced list) during the week.

I was able to complete two of John Wagoner's lists — the 2014 list (Zombies) and the 2013 list (I Have No Idea Where I Am). The 2014 list included some very dim, in my telescope, galaxies. The most difficult for me were the 'antennae' (NGC 4038 and NGC 4039) and NGC 5566. Who knew that I could see the 'antennae' galaxies in a 4" telescopes, yet I did, barely. NGC5566 was questionable. Fortunately there were more objects on the list than were needed to qualify for the pin.

Amelia Goldberg reported that she enjoyed Larry Mitchell's list this year. That is, she was able to see the objects on the list with a reasonable amount of effort. His 'Seeing Red' list included several red stars that were actually quite bright. I saw a few of these in my next-door-neighbor's telescope (Bill Flanagan). He has a 14" 'scope, so many of these shined brightly in the eyepiece.

I made an effort to watch for Iridium flares this year and saw at least two of them. One of the predicted flares didn't happen.

The weather was quite nice this year. Yes, it was hot during the day, but at night it was just right. Not so cold that I was driven indoors earlier than I would have liked with cold feet or ears or hands. The temperature was about 60 or so. One night it got into

the 50's but it was still comfortable.

I spent a bit of time doing some visual variable star estimation. I haven't done this in years (I'm now doing photometric measurements using a CCD imager). It was fun, though. I'll be submitting these estimates to the AAVSO soon.

We made a side trip to Marfa to see the Chinati Foundation art installation at what used to be a military base (built in 1920). Fellow astronomy enthusiast Anne Adkins works for the foundation. We had a great tour of the art at the site, followed by a great lunch at the Food Shark (food truck) near the courthouse. Everybody in Marfa said that it was the best food in town, and it was quite good, indeed.

One minor crisis — our air conditioner in the car malfunctioned west of Kerrville, so we had to drive the last 300 miles or so without a working air conditioner. Warm, but not bad with the windows open. The a/c is now fixed.

Until next time...

clear skies and new moons!

..Bill

Novice Presentation—June, 2014

Light Pollution—What You Can Do About It

By **Debbie Moran**

In June I will speak about Light Pollution and what you can do about it. Learn how to light your home beautifully so that it is conducive to astronomy and how to be a good example to your neighbors. I will also mention the four year adventure that I went through to get Woodside subdivision near Stella Link and the South Loop to become the first subdivision in Houston allowed to install full cutoff decorative street lighting. Those lights are finally in place and turned on and already inspiring the surrounding neighborhoods to look into them also.

In July, I hope to begin a Focus on the Telescope mini-series to be sprinkled throughout the rest of the year which will each include an in depth session on a single type of telescope mount and optics. We will probably start with the simple Dobsonian Newtonian then. August will bring the long awaited astrophotography session with speaker Doug Holland.

Just Looking

A GuideStar Interview by Clayton L. Jeter

Ryan Behrends — Hill Country Observer



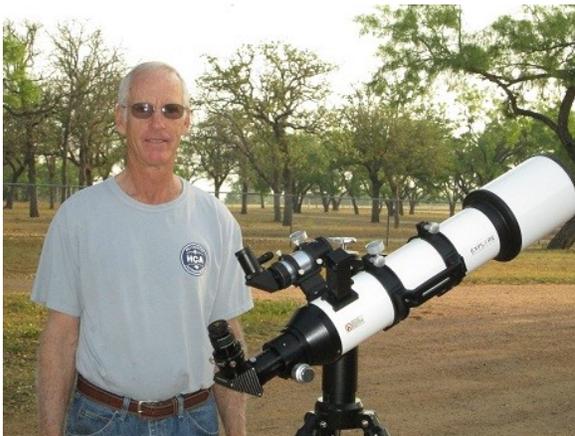
There's a new astronomy club in Texas! In the Texas Hill Country which is based in the Fredericksburg area. I really like their name, "The Hill Country Astronomers". My second cousin, Jason Fry is a co-founder of this club. I asked Jason last month about someone I might interview for our newsletter. He suggested Ryan Behrends, one of the members that's totally gung-ho into this hobby.

Enter, Ryan. I was told by my cousin that Ryan is a do-it-yourselfer and has made many astronomy gizmos out of items found around his home. Let's see what Ryan has to say. Here's Ryan...

The Ryan Behrends bio...

I was born and raised on a peach and livestock farm in Gillespie County near Fredericksburg.

I got a degree in music in 1974 from Southwest Texas State University (now Texas State) and was a Middle School band director for 9 years before returning to the farm in 1984.



I have raised peaches and cattle for the last 30 years.

I always had an interest in science and first scope received as Christmas present from my wife in 2006 (90mm Meade ETX). Ryan used that scope minimally until Hill Country Astronomers formed in Aug. 2011.

I now use an Orion 12" reflector, an Explore Scientific 5" achromat, and a Celestron 4" achromat.

I have completed 3 Astronomical League observing programs

- Messier (all 110)
- Lunar I
- Double Star (recently)

I am close to being done with the Lunar II program and have just begun to work on the Herschel 400 program.

All my observing is done without go-to equipment.

The Ryan Behrends interview...

Clayton: How did you first become interested in astronomy?

Ryan: I've always been interested in science related subjects and the natural world around us. The night sky is a part of that so I guess you could say the interest has always been there.

Clayton: How and when did you hook up with the Hill Country Astronomers astronomy club?

Ryan: In the summer of 2011, Jason Fry and Mark Ward put an article in the Fredericksburg paper to see if there would be any interest in forming a local astronomy club. About a dozen of us showed up for the 1st meeting. We quickly elected Jason as President and Mark as our vice-president. Within the first 2 meetings, we decided on the name for the club.

Clayton: Tell our readers all about this new astronomy club there.

Ryan: Hill Country Astronomers currently has about 35 members. We have people from all walks of life that live in towns and counties in the Texas hill country. Our members range from beginners to very experienced astronomers. Our club meets on the 1st Monday of each month at the university center in Fredericksburg. We also have monthly star parties at vari-

(Continued on page 8)

Astronomical League Convention

San Antonio, July 10-12

The HAS is a member of the national Astronomical League organization. Every year they hold a multi-day convention. This year it is in nearby San Antonio. At the convention are lectures, vendors and group banquets.

The speakers are: Don Pettit, astronaut explorer; Don Olson, Celestial Sleuth; Erika Rix, Astro-Sketching; Amanda Bayless, Stellar Binaries; Forrest Mims, Earth's Atmosphere; John Davis, Art in Astro-Imaging; Mike Simmons, Astronomers Without Borders; Larry Mitchell, Deep Sky Objects; William Bucklew, Lowell Observatory; Aaron Clevenson, Supernova 2014J and Laura Allai, Astrophotography.

For a hotel, there is a special room rate of \$99 at the Hilton San Antonio Airport. And don't forget about all the other attractions in San Antonio you can visit, including transportation for a night visit to the Riverwalk.

For more information and registration details see this site:

<https://www.astroleague.org/files/alcors/WhatsUpWithAstroLeagueMarch2014b.pdf>

Messier Marathon Results

By Steve Fast, Chair Field Trip and Observing

On 29 March, after the Founders' Event and club picnic, we had a good night of observing. For the first time in many years, all the pads were full and people were setting up telescopes on the grass. The initial objects were clouded out for the Messier Marathon, but the clouds soon cleared, so we got started. Several people got impressive results with Rene Gedaly topping the list at 95 objects!

Here are all the results submitted to me for those who star-hopped:

Rene Gedaly	95
Justin McCollum	72
Michael David	29
Rodger Jones	29

And a special mention to Jeffrey Hartgerink who photographed 80 objects while using a go-to telescope.



Bill Pellerin, Lori Valencic, and Bill Flanagan at the TSP

Credit: Kent Francis

(Continued from page 6)

ous locations throughout the hill country. We have some pretty dark skies west of Fredericksburg that we can take advantage of.

Clayton: Jason Fry told me about your handy work that goes into your hobby. What all have you made and out of what?

Ryan: I've always been pretty handy with tools so my 1st project was to build a parallel mount for my 15X70 binoculars. The mount itself is made from oak that I rescued from a barn on the place where I grew up. I used a swivel from an army surplus swivel chair and the tripod from an old surveyor transit. It all came together after a bit of trial and error. I have built wooden cases for my refractor telescopes and a 4X8 foot enclosed trailer to haul it all in.



Clayton: Tell us a bit about outreach in your area. Is your club proactive? Had any school star parties?

Ryan: I'm glad to say that our club has been very active in various outreach programs. We have had star parties at Fredericksburg schools for different age students and their parents. We have been involved with "Stars in the Park", a biannual public star party at Blanco State Park. The club has also recently partnered with Enchanted Rock State Park for public star parties.

Clayton: Are any of your family or neighbors interested in your hobby? Do they observe too?

Ryan: I am happy to say that my wife, Rhonda, totally supports my interest in the hobby and in fact is a member of the club and does some observing herself. In fact, Rhonda has earned the Astronomical League "Constellation Hunter" certificate. I am proud of her effort and interest in the night sky.

Clayton: What's your attraction to the night skies? Got a favorite object?

Ryan: What's not to like? Everywhere you look there is beauty. It's hard to pin down a favorite object. Every type of object has its own kind of beauty. I love globular clusters in my 12" reflector, but after completing the double-star list, I've also learned to appreciate a clean split in a refractor.

Clayton: How would you like to see your own astronomy grow? Think you'll get into astrophotography? Or sketching?

Ryan: I don't see myself ever getting into astrophotography, although I admire and have great respect for those that are good at it. Sketching on the other hand is something I've already dabbled with. While working on the Lunar II list, there is some sketching involved. I found some tutorials on-line that helped me get started. I would eventually also like to do some planetary and deep space object sketching. My sketches are definitely not works of art, but the process is enjoyable and makes me a better observer.

Clayton: I'd like to know a little about your telescope(s). Any upgrades?

Ryan: My telescopes are mostly stock the way they came from the manufacturers. I did put a Telrad finder on my reflector and Rigel finders on my refractors. In my opinion, these reflex finders are a must for star hopping. I also have a full set of Explore Scientific 82 degree eyepieces that I use with all 3 scopes.

Clayton: It seems in recent years that the younger people are not that interested in amateur astronomy, or any of the sciences. Are you attaining any young club members?

Ryan: Unfortunately, we don't currently have any young people that regularly attend meetings or club star parties. That seems to be the norm just about everywhere.

Clayton: Do you have any helpful advice to pass on to observers just starting out in astronomy?

Ryan: My advice to a beginning observer is to use the vast amount of information available on the internet to learn as much as possible about all aspects of amateur astronomy. Join an astronomy club and get advice from experienced members. If at all possible, do these 2 things before buying your 1st telescope.

Clayton: Is there an email address that you

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The Hottest Planet in the Solar System

By Dr. Ethan Siegel

NASA Space Place

When you think about the four rocky planets in our Solar System—Mercury, Venus, Earth and Mars—you probably think about them in that exact order: sorted by their distance from the Sun. It wouldn't surprise you all that much to learn that the surface of Mercury reaches daytime temperatures of up to 800 °F (430 °C), while the surface of Mars never gets hotter than 70 °F (20 °C) during summer at the equator. On both of these worlds, however, temperatures plummet rapidly during the night; Mercury reaches lows of -280 °F (-173 °C) while Mars, despite having a day comparable to Earth's in length, will have a summer's night at the equator freeze to temperatures of -100 °F (-73 °C).

Those temperature extremes from day-to-night don't happen so severely here on Earth, thanks to our atmosphere that's some 140 times thicker than that of Mars. Our

average surface temperature is 57 °F (14 °C), and day-to-night temperature swings are only tens of degrees. But if our world were completely airless, like Mercury, we'd have day-to-night temperature swings that were *hundreds* of degrees. Additionally, our average surface temperature would be significantly colder, at around 0 °F (-18 °C), as our atmosphere functions like a blanket: trapping a portion of the heat radiated by our planet and making the entire atmosphere more uniform in temperature.

But it's the *second* planet from the Sun -- Venus -- that puts the rest of the rocky planets' atmospheres to shame. With an atmosphere **93 times as thick as Earth's**, made up almost entirely of carbon dioxide, Venus is the ultimate planetary greenhouse, letting sunlight in but hanging onto that heat with incredible effectiveness. Despite being nearly twice as far away from the Sun as Mercury, and hence only receiving 29% the sunlight-per-unit-area, the surface of Venus is a toasty 864 °F (462 °C), with *no difference* between day-and-night temperatures! Even though Venus takes hundreds of Earth days to rotate, its winds circumnavigate the entire planet every four days (with speeds of



Image credit: NASA's Pioneer Venus Orbiter image of Venus's upper-atmosphere clouds as seen in the ultraviolet, 1979.

220 mph / 360 kph), making day-and-night temperature differences irrelevant.

Catch the hottest planet in our Solar System all spring-and-summer long in the pre-dawn skies, as it waxes towards its full phase, moving away from the Earth and towards the opposite side of the Sun, which it will finally slip behind in November. A little atmospheric greenhouse effect seems to be exactly what we need here on Earth, but as much as Venus? No thanks!

Check out these "10 Need-to-Know Things About Venus":

http://solarsystem.nasa.gov/planets/pr_ofile.cfm?Object=Venus.

Kids can learn more about the crazy weather on Venus and other places in the Solar System at NASA's Space Place:

<http://spaceplace.nasa.gov/planet-weather>.

Observatory Corner

By Mike Edstrom, Observatory Committee Chairman



More new improvements to the Dark Site we have purchased, thanks to donations and funds from the board, a Davis Vantage Pro 2 weather station as the first part to an on line weather station. We hope to raise the funds to add a sky camera so our members will be able to see the sky conditions along with the wind, humidity, temperature and rain fall on line.

The weather station will be installed in the next few weeks and we will announce how to access this information on line soon.

As you visit the Dark Site we invite you to make suggestions as to improvements you would like to see.

As a safety reminder please read the sign posted on the side of the metal building at the Dark Site which has directions to the hospital and contact information for the sheriff's department it also has the address to the site in case of a medical emergency.

And the Work Goes On

I **need** to remind everyone that we need to start filling out Log Reports at the site so I can give this information to the Fondren Foundation. The property is on a 99 year lease and part of the Lease agreement is that HAS needs to report every year to the Fondren Foundation that the property is being used. The Log Reports are located in the box in the middle of the field. Just open the cover, fill out the report and then slide it into the slot that is in the inside of the cover and then close the box. It is very important that everyone fill out a Log Report so that we are showing that the Observing site is being used. Your help on this is very much appreciated.

If you have a Randalls card, and have not done so, please have it cod-

ed for the Houston Astronomical Society. Our number is #6618. The Society gets 1% of the gross sales that member spends at Randalls. Randalls totals up the amount spent each quarter and will send us a check if the amount goes over \$2,500, otherwise the total roles over to the next quarter of zeros out at the end of the calendar year. So please link your Randalls card to the Houston Astronomical Society so that the society can benefit from this Randalls program. This is very easy to do, just go to the Courtesy Booth and tell the person there what you want to do.

If you have any suggestions or thoughts for the site, please let me know.

Thank you,

Mike Edstrom

medst22531@msn.com

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have that a Houston Astronomical Society member could contact you for an additional question or two?

Ryan: oryan1213@yahoo.com

Clayton: Thanks Ryan for taking the time to share your interest and thoughts within our HAS newsletter, the *GuideStar*. We wish you luck with all of your astronomy interests. Please come visit our society when in the Houston area, we'd love to see you.

Ryan: Thanks Clayton...I enjoyed the interview!

Clear skies always...

Clayton is an avid SCT visual observer and a longtime member of the Houston Astronomical Society. Contact him at: stonebloke@gmail.com

New Facts Change Theories About Star Clusters

By C.C. Peterson, <http://thespacewriter.com>

One of the things I like about science is that the story is never finished. It's a story of continual change and learning. Ongoing research in any realm of science brings new answers to old questions and raises new questions as we refine our methods and techniques. This is why we often hear that scientists have changed their views on some topic. It's almost always because new data are available, or new instruments allow them to probe their topics of study more deeply. In true and honest scientific research, the changes in data aren't arbitrary or made to fit some political or business agenda. They're always because we found a better way to learn about our topics.

Take star clusters, for example. These are groupings of stars that formed about the same time in a massive cloud of gas and dust. Astronomers could tell that the stars were of similar ages when they measured their temperatures, brightnesses, metallicities (essentially, their chemical makeup), and velocities through space. However, the sequence of starbirth in a cluster wasn't really well understood.

For a long time, astronomers assumed that stars formed in clusters in giant clouds and that as more material got pulled into the central region of the starbirth crèche, more stars would form in that region. Those stars were assumed to be the oldest and the stars elsewhere would be younger. It sounds logical, but it turns out that it's not what happened.

Astronomers using the Chandra X-Ray telescope orbiting Earth looked at two clusters where sun-like stars are in the process of forming. One cluster is in the center of the Flame Nebula and the other is in the Orion Nebula (both in Orion). By looking at them in x-ray wavelengths, astronomers were able to calculate the ages of the stars in the clusters. It turns out the youngest stars are in the center and the older ones are in the outskirts. This has some implications for cluster development, but also means that astronomers will need to work some more on refining the models of how stars like the Sun form

The astronomers in the Chandra study, led by Konstantin Getman of Penn State University, used the Chandra data to look at the brightness of the stars in x-rays, which helped them determine the masses of those stars. They also used observations of the same stars in infrared light conducted by ground-based telescopes and also from data collected by the infrared-sensitive Spitzer Space Telescope. All that data combined helped them pinpoint the ages of the stars quite accurately.

So, stars in clusters are older in the suburbs of the cluster, and younger in the "downtown" regions. How might that happen? The astronomers have several ideas. It could be that star formation continues to occur in the inner, material-rich regions of a starforming cloud, but stops in the outer regions when material runs out. That means that no new stars form in the outer suburbs, and the older stars are the only ones left there. It's also possible that old stars drift away from the action at the core of a cluster, and settle out in the suburbs, where star formation has stopped or slowed down drastically. Finally, there's a possibility that stars form in massive filaments of gas that fall toward the center of a cluster, and the stars continue along the original path of the filaments.



A new study of NGC 2024 and the Orion Nebula Cluster show stars on the outskirts of these clusters are older than those in the middle. Image Credit: X-ray: NASA/CXC/PSU/K.Getman, E.Feigelson, M.Kuhn & the MYStIX team; Infrared: NASA/JPL-Caltech

To see if this old-stars on the outskirts, young stars in the cores trend occurs elsewhere, astronomers will need to do the same measurements in other clusters. If it does, then that gives us more data points about star formation and clusters that we can use to understand the same events elsewhere in our galaxy, and in other galaxies.

Speaking of clusters, there's a star cluster you can find with the naked eye (if you have a good dark sky spot) or binoculars. It's called Melotte 111, in the constellation Coma Berenices. Want to learn how to find it? Check out the May edition of "Our Night Sky" at Astrocast.TV.

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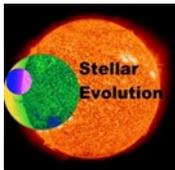
HAS Texas 45 observing program

A Nod to Observing Stellar Evolution

By Rene Gedaly — HAS Texas 45 Program Coordinator

Did you know that objects listed in the HAS Texas 45 include many that also appear on observing lists compiled by members of the Astronomical League? As dues paying members of HAS, we are also members of the Astronomical League and the league has some mighty fine lists, including one by HAS president and *GuideStar* editor, Bill Pellerin.

I was out at the dark site one weekend with my husband Ray, proudly showing him some of my favorite deep sky objects, when he stopped me mid-hop to ask some questions about what we'd just



seen. How far back in space and time were we looking? About how many stars were there in that dense clump? What significance did this particular grouping have for astronomers and how was it different from that much looser clump we saw the last time we were out? I stammered something pertaining vaguely to the object in question and

told him to keep quiet, he was embarrassing me in front of the other observers. You see, what had fascinated me so much about the stars early on had become forgotten in my current pursuit of the next list object.

Some of us get so caught up in the hunt that we don't stop to appreciate the objects as we observe them. It's fun to check off the next item on the list as we race to win that next pin. But it's also rewarding to learn something more about these objects along the way. That's why I like Bill Pellerin's astronomical league observing program so much, *Observing Stellar Evolution*.

No mere list, Bill's program includes a manual that guides us along the trajectory from a star's birth through its death and the possible twists and turns it can take along the way. The objects in the list are grouped according to stellar age so that as we observe, we also learn where in its lifecycle the object is. Also helpful is the definition of terms and stellar catalogs section ... *Oh, so that's what the HD in HD 39801 stands for, a.k.a. Betelgeuse, α Ori, 58 Ori, SAO 113271, HIP 27989 ...* It serves as a nice reminder for some, an introduction for others.

The framework for understanding stellar evolution is the Hertzsprung-Russel diagram. Pellerin's explanation, and what it means in terms of stellar chemistry, is as fine and accessible a treatment as I've seen, a real joy to read. Check it out here: <http://astroleague.org/content/observing-stellar-evolution>.

So, are there objects on the HAS Texas 45 that are also included in the AL club Observing Stellar Evolution? Yes, there are. But you'll

want to observe those overlapping objects again. Not only is that a requirement of Bill's program, it's also its *raison d'être*. Mindful observing is the name of the game here. Thanks for the reminder, Bill. Looking forward to it.

Rene Gedaly

Photos from the Texas Star Party



The North Observing Field , Credit: Bill Pellerin



Calvin Embry sports a Comet Ison T-Shirt Credit: Bill Pellerin



*Bill Flanagan and his 14" Celestron
Credit: Bill Pellerin*



*Kent Frances and his imaging setup
Credit: Kent Frances*



*Scott Mitchell sets up his
telescope, Credit: Bill
Pellerin*



*Debbie Moran gave two talks
at the TSP, Credit: Bill
Pellerin*



*Steve Grimsley helps with registration,
Credit: Bill Pellerin*

Shallow Sky Object of the Month

The Blue Racquetball

By Bill Pellerin, GuideStar Editor

Object: The Blue Racquetball, NGC6572

Class: Planetary Nebula

Constellation: Ophiuchus

Magnitude: 8.1

R.A.: 18 h 12 m 6.4 s

Dec: 06 deg 51 min 12 sec

Size/Spectral: 15"

Distance: 3500 ly

Optics needed: Telescope

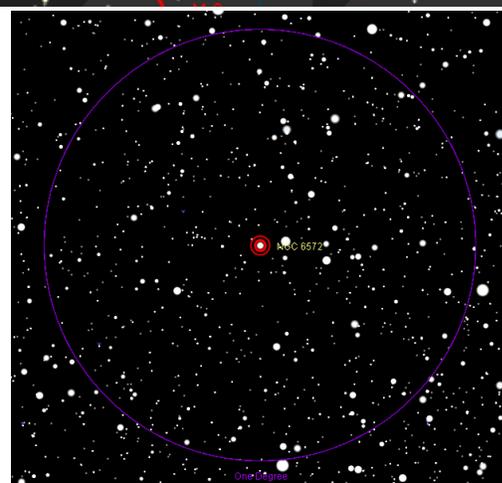
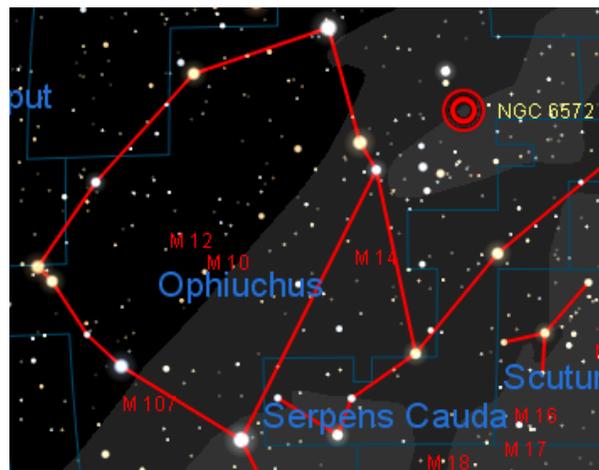
A planetary nebula is the near-end-stage of a low mass star, like the Sun. This stage of the star's life is very short, about 60,000 years, compared to the main sequence stage (billions of years). This one is special because of its color, which, not surprisingly (given its name), is blue.

I saw this object from the Texas Star Party, but it is bright enough for you to see from the HAS observing site. I saw it in a 4" telescope, and you probably have a larger 'scope than that available to you. You may have to apply high power to the object to see it as something more than a dot in your telescope view. When I saw it, I was sure that the only object that could be at that location in the star field was the planetary.

Another way to confirm a planetary nebula is to use an O-III (Oxygen 3) filter. Either add it to your eyepiece or move it between your eye and the eyepiece. The planetary will shine brightly through the filter, but all the stars in the field will be dimmed.

Observers at TSP with large telescopes report that they see the color blue in the object. I looked at this planetary through a 14" telescope and may have seen color, but colors of nebulous objects are subtle and sometimes the mind plays tricks on us observers. Sometimes we see what we expect to see.

Nevertheless, give this one a look. I was able to see it in my 4" refractor as an almost stellar-sized object at low magnification. I didn't see the 'flyers' that are shown in the accompanying photo towards the top left and the bottom right.



Finder and detail charts

Star charts generated by TheSkyX © Software Bisque, Inc. All rights reserved. www.bisque.com



NGC6572
Credit:
ESA/Hubble
and
NASA.

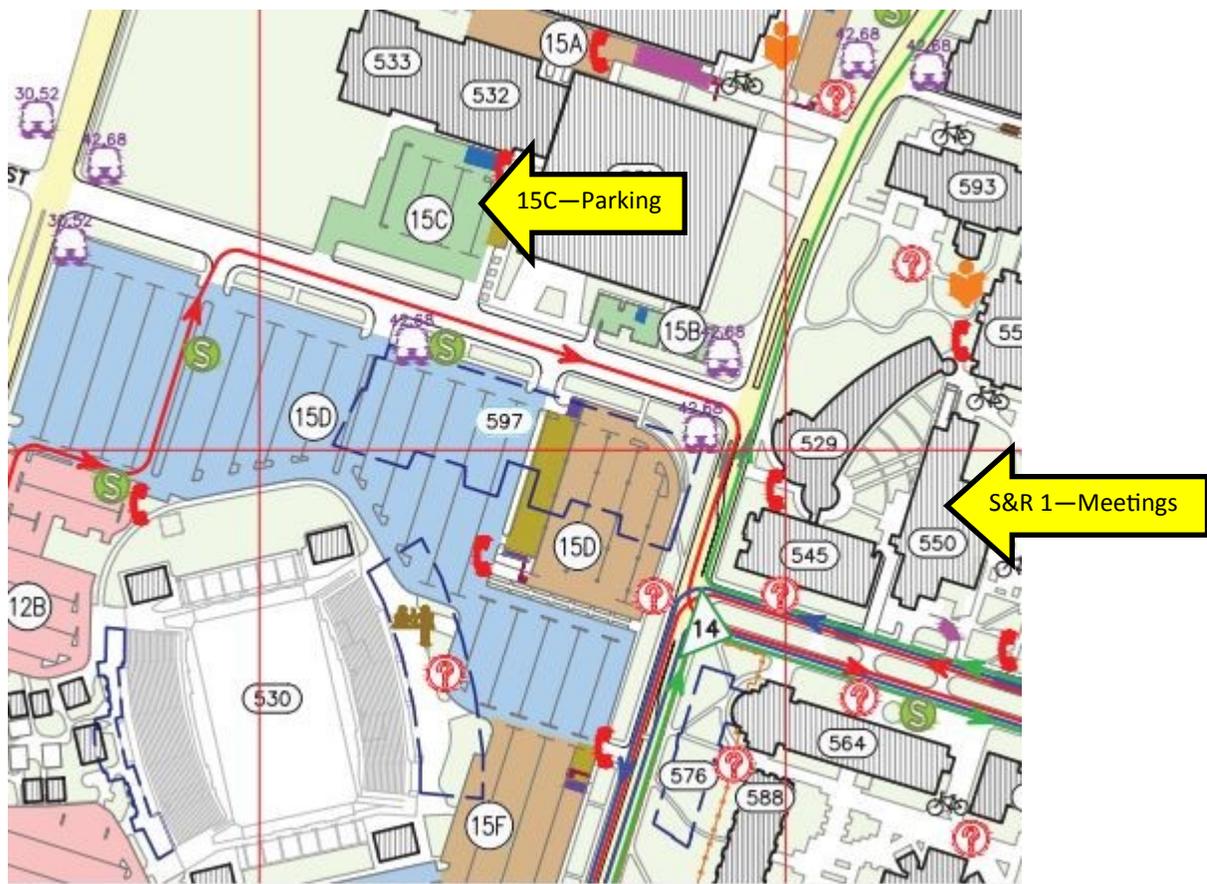
Parking at the University of Houston Main Campus

For the monthly Houston Astronomical Society Meeting

The map below shows the location of the 15C parking lot, west of Cullen Boulevard on Holman Street..

The map is from the University of Houston web site and identifies the lot that is available for parking while attending the Houston Astronomical Society monthly meeting. This parking is available from 6:30 p.m. until 10:00 p.m. on the Friday night of the HAS meeting (usually the first Friday of the month).

This parking is free. If you get a notice from the UH campus police on the night of the meeting, call the UH Security office and let them know that this area has been made available on HAS meeting night by the Parking Department.



Houston Astronomical Society

P.O. Box 800564

Houston, TX 77280-0564

General Membership Meeting

The Houston Astronomical Society holds its regular monthly General Membership Meeting on the first Friday of each month, unless rescheduled due to a holiday or a conflict with other events at the University of Houston.

Board of Directors Meeting

The Board of Directors Meeting is held on dates and at locations scheduled by the board. Information provided to *GuideStar* will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

GuideStar Information

The H.A.S. *GuideStar* is published monthly by the Houston Astronomical Society. All opinions expressed herein are those of the contributor and not necessarily of Houston Astronomical Society. The monthly Meeting Notice is included herein. *GuideStar* is available on the HAS web site to all members of H.A.S., and to persons interested in the organization's activities. Contributions to *GuideStar* by members are encouraged. Electronic submission is helpful. Submit the article in text, MS-Word format via email BillPellerin@sbcglobal.net. Copy must be received by the 15th of the month for inclusion in the issue to be available near the end of the same month. Or, bring copy to the General Membership Meeting and give it to the Editor, or phone to make special arrangements.

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The Houston Astronomical Society welcomes you to our organization. The HAS is a group of dedicated amateur astronomers, most of whom are observers, but some are armchair astronomers.

The benefits of membership are:

- Access to our 18 acre observing site west of Houston -- a great place to observe the universe!
- A telescope loaner program -- borrow a HAS telescope and try observing for yourself!
- A monthly novice meeting, site orientation meeting, and general meeting with speakers of interest.
- Opportunities to participate in programs that promote astronomy to the general public (such as Star Parties at schools)
- A yearly all-clubs meeting for Houston area organizations
- Meet other amateurs and share experiences, learn techniques, and swap stories

You're invited to attend our next meeting.

You'll have a great time.

Houston Astronomical Society

Meeting on Friday, June 6, 2014

7:00 Novice Meeting, room 116 Science & Research 1 Bldg

8:00 General Meeting, room 117 Science & Research 1 Bldg

University of Houston

Directions to meeting:

From I-45 going south (from downtown)

- exit at Cullen Boulevard
- turn right on Cullen
- turn right on Holman Street; the parking lot is past the Hofheinz Pavilion
- Science and Research is across the street (2nd building back)

From I-45 going north (from NASA/Galveston)

- exit at Cullen Boulevard
- turn left on Cullen
- turn right on Holman Street; the parking lot is past the Hofheinz Pavilion
- Science and Research is across the street (2nd building back)

Parking:

There is Free Parking. See Parking map and detailed information on parking on the preceding page.