

GuideStar

June, 2009

At the June 5 meeting...

Science Fair Projects

Every year, the Houston Astronomical Society participates in the Houston Area Science and Engineering Fair. Volunteers from the HAS judge astronomy and space related exhibits and present awards to the students whose exhibits are the best. The winners are given an opportunity to present their work at the HAS meeting and this year those presentations will be at the June meeting. It's always great to see the work these students do. Don't miss this one.

Texas Star Party Wrap-Up

If you were, or you weren't at the Texas Star Party 2009 (and this includes everyone), you'll want to see this wrap-up presentation. You'll re-live the fun you had at the event or you'll see what fun you missed (and start your planning for the 2010 TSP).



Highlights:

Observatory Corner.....	5
Destination Roswell	6
Photos from TSP 2009	7
Doug McCormick	9
Scoring More Energy from Less Sunlight	13
Epsilon Aurigae - IYA Project.....	15
Remembering Rick Hillier	16

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.

Schedule of meeting activities:

All meetings are at the University of Houston Science and Research building. See the inside back cover for a map to the location.

Novice meeting: 7:00 p.m.

*Freeware Planetarium Programs --
Justin McCollum (HAS, FBAC, NHAC, ASSET)*

Site orientation meeting: 7:00 p.m.
Classroom 121

General meeting: 8:00 p.m.
Room 117

See last page for a map
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.

Officers & Past President

President: Bill Leach.....	H: 281-893-4057
Vice Pres: Ken Miller	H: 936-931-2724
Secretary: Open	
Treasurer: Bill Flanagan	H:713-699-8819
Past President: Steve Sartor	

Additional Board Members

Steve Goldberg.....	713-721-5077
Don Pearce.....	713-432-0734
Doug McCormick.....	
Alan Grissom.....	
John Missavage.....	

Committee Chairpersons

Audit	Tom Blocker
Education.....	Richard Nugent
Field Tr./Obsg.....	Mike Edstrom 281-347-7267
Novice.....	Justin McCollum
Observatory.....	Bob Rogers
Program.....	Brian Cudnik
Publicity	John Missavage
Telescope	Bram Weisman
Welcoming	Susan Bruneni

Ad-Hoc Committee Chairpersons

Historian	Leland Dolan..... 713-688-0981
Librarian.....	Peggy Gilchrist..... 281-443-8773
Logo Mds Sales	Judy Dye
Long Range Plan.....	Bill Leach..... 281-893-4057
Parliamentarian	Kirk Kendrick
Publ. Star Party	Richard Nugent
Rice U. Coord.....	Matt Delevoryas
Schedule Obs'v'ty	Steve Goldberg
Texas Star Pty	Steve Goldberg
	713-721-5077

Special Interest Groups & Help Committees

These are now listed on the inside of GuideStar (not every month). See the Table of Contents

Advisors

Dr. Reginald DuFour, Rice Univ.
Dr. Lawrence Pinsky, U. of H.
Dr. Lawrence Armendarez, U. of St. Thomas

Dues and Membership Information

Annual Dues:Regular	\$36.00
Associate	\$6.00
Sustaining	\$50.00
Student	\$12.00
Honorary	None

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*. Regular, Student, and Honorary Members receive *The GuideStar*. 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 outside cover 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.

Table of Contents

3.....	June/July Calendar
	Web site
	Columbus Field Trips
4.....	Observations of the Editor
5.....	Observatory Corner
6.....	Destination Roswell
7.....	Photos from TSP 2009
9.....	Doug McCormick
13.....	Scoring More Energy from Less Sunlight
15.....	Epsilon Aurigae - IYA Project
16.....	Remembering Rick Hillier
	Membership Renewals

Special Interest Group Listing

Any member who wants specific information on a SIG listed below may call the listed individual. Also, see the "Ad Hoc Committee Chairpersons" on the inside front cover and the "Special Help Volunteers" listing (not in every issue).

Advanced.....	Bill Leach..... 281-893-4057
Comets	Don Pearce
Lunar & Planetary.....	John Blubaugh
	713-921-4275

Other Meetings...

Fort Bend Astronomy Club meets the third Friday of the month at 8:00 p.m. at the First Colony conference Center. Novice meeting begins at 7:00, regular meeting begins at 8:00. Web site: <http://www.fbac.org>

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

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

June/July Calendar:



Photo by Scott Mitchell

Date Time Event

June

5	4:00 p.m.	Venus at greatest elongation west
5	4:00 p.m.	Venus at greatest elongation west
7:00 p.m.		HAS Novice Meeting, U of H
8:00 p.m.		HAS General Meeting, U of H
6		Evening Lunar Occultation of Antares
7	1:12 p.m.	Full Moon
13	7:00 a.m.	Mercury at greatest elongation west
15	5:15 p.m.	Moon at last quarter
20		Prime Night, Columbus Observing Site
21	12:46 a.m.	Summer Solstice
22	2:35 p.m.	New Moon
	11:00 p.m.	Pluto at opposition
29	6:28 a.m.	Moon at first quarter

July

7	4:21 a.m.	Full Moon
		Penumbral eclipse of the Moon
9	11:00 a.m.	Jupiter 0.56deg SSE of Neptune
10	7:00 p.m.	HAS Novice Meeting, U of H
8:00 p.m.		HAS General Meeting, U of H
15	4:53 a.m.	Moon at last quarter
18		Prime Night, Columbus Observing Site
22	9:34 p.m.	New Moon
28	4:59 p.m.	Moon at first quarter
		Delta Aquarid meteors peak

Send calendar events to Doug McCormick
- skygazer10@sbcglobal.net

Check the web site:
www.astronomyhouston.org
Webmaster: Kay McCallum
kaym@mcclibrary.net

The Houston Astronomical Society Web page has information on the society, its resources, and meeting information.

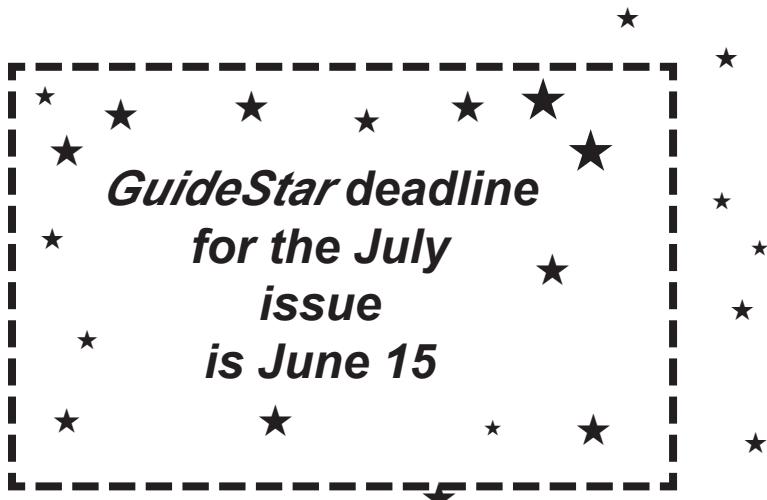
Want your astronomy work and name on the Internet for the whole world to see? Have some neat equipment? Pictures in film, CCD, hand drawings or video format are all welcome on the page. Do you have an idea to improve the page? I'm listening. Send me Email at kaym@mcclibrary.net.

Columbus Field Trips 2009

.....
Mike Edstrom
Field trip/Observing committee chair

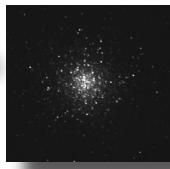
The schedule is as follows:

- September 19 - Annual picnic / all clubs/BBQ
- October 17 - All clubs BBQ
- December 19 – HAS Observing



Observations... of the editor

by Bill Pellerin, GuideStar Editor



The Texas Star Party 2009 is over

The box score from the TSP is 3.5 outstanding observing nights out of 7. In baseball, that'd be batting 500, so not too bad. In the course of the week we had presentations by Terrence Dickens (author), Don Pettit (astronaut), and others. There were door prizes, vendors, there was a swap meet, and there were the TSP observing lists. The 'easy' list was put together by John Waggoner and the 'nearly impossible' list was put together by Larry Mitchell. Everybody who tried these had fun trying to track down the objects in the sky and those who succeeded were rewarded with another pin to add to their collection. There will be a TSP wrap-up at this month's meeting

For me, it was an interesting time. I lost my job in January due to a corporate bankruptcy, but found a new one in April. I started the new job the week after the TSP, so things were a bit hectic for a while. I hope that none of you are obliged to seek out new work in this economy. It's out there, but it's hard to find. Keep at it.

What does it mean to do astronomy?

By writing this for the *GuideStar*, am I *doing* astronomy? The time I spent earlier today trying to figure out how to operate a mount and its associated software -- is this *doing* astronomy? If I'm reading a book on astronomy, or researching a subject of interest to me, is this *doing* astronomy? Yes, it all is. We often complain that we don't get enough time to do astronomy, but I think that what we mean is that we don't spend as much time observing as we'd like. Me too. We're just completing a new moon weekend, most of which was lost to bad weather.

If we broaden the range of activities that we devote to our interest to include reading, studying, doing volunteer work, updating equipment and software, and attending HAS meetings, I think we'll find that we spend more time on astronomy related activities than we think.

Live Oak Festival, Columbus

Several of us, led by Steve and Amelia Goldberg, spent the weekend of May 16-17 at the Columbus Texas Live Oak Festival. Other volunteers included Bill Flanagan, Brian Cudnik, Rodney Rocha, Steve and Darlene Sartor, Jayne and Dana Lambert. The intention of our participation in the Live Oak Festival was to promote good lighting practices, to build good will with the Columbus citizenry, and to introduce astronomy to the event participants.

Normally, the event is held at the Colorado County courthouse in Columbus, but a major renovation is in progress at the courthouse, so the event was moved to a nearby park. It was a great location, but the turnout for the event was low and the ability of the HAS to meet and greet with Columbus residents was limited. There were a few teachers who came by and took materials from our booth for their students.



Bill Flanagan, Steve Goldberg, and Amelia Goldberg at the Live Oak Festival in Columbus

By 4:00 p.m. on Saturday it was pouring rain, and on Sunday we shut down at 1:00 p.m.

We're all eager for some dark-sky time. Maybe June will be our month!!

***Until next time...
clear skies and new moons!***

..Bill

Observatory Corner

By Bob Rogers, Observatory Chairman



Not much to report on for this issue of the Observatory Corner other than I had a report that a tree had fallen on the entrance road at the site. On Saturday, May 2nd, Lee Gibson, Dale Morningstar, Ed Fraini and I met at the site to take care of the tree. Ed and Lee pulled the tree (via Lee's truck) onto the field so they could cut the tree up. Once cut, it was stacked into a future burn pile. After that event and while everyone was still out there, we decided to burn the other two burn piles. Should have brought the marshmallows for that.

A note to everyone, the gate combination at the Observatory site was changed on April 4th, 2009. If you still have not received the new combination and you are currently up to date on your dues and have taken the site orientation since joining HAS, then contact me at siteworkerbob@hotmail.com to get the new combination.

If you have a Randalls card, and have not done so, please have it coded for the Houston Astronomical Society. Our number is #6618. The Society gets 1 percent of the gross sales that members spend at Randalls. Randalls totals up the amount spent each quarter and will send us a check if the amount goes over \$2,500.00, otherwise the total rolls over to the next quarter or 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. Our number is #6618. 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, let me know.



Thanks,

Bob Rogers
Observatory Chairman
281-460-1573
siteworkerbob@hotmail.com

Destination Roswell, 2009

by Cecile Shopen, Austin Astronomical Society

By way of post-Texas Star Party exploration (as long as we were out that way), Anne Adkins and I joined Houston Astronomical Society members Steve and Amelia Goldberg for a quick trip to investigate Roswell, New Mexico. On leaving, we were briefly escorted by a fleet of strange lenticular clouds that seemed an auspicious sign. One in particular appeared quite as if it might wish to tag along in search of remaining relatives in Roswell....

Our strategy on arriving late in the day after a four hour trip was to peruse the souvenir shops and save the UFO museum for the next morning. Leaving with armloads of tee shirts, green plastic aliens, alien sunglasses, blow up aliens, alien do rags and other paraphernalia of the paranormal sort meant for those nearest and dearest (Howard Adkins really appreciates this kind of thing), we headed to the Cattle Baron for dinner. But not before spending time at one of the shops with aliens willing to pose for photos. For a price, of course.

Made famous internationally by the X Files television series, Roswell is believed by many to be the site of a July 1947 UFO crash and subsequent cover up by the military, with removal of remains to Area 51 in Nevada. The UFO Museum and Research Center includes an audio tour and exhibits replete with affidavits, photos, reports, contemporaneous radio broadcasts, original space-themed art, the alien from the movie, Roswell: The Motion Picture and questions. Lots of questions.

The museum "maintains its position as the serious side" of a visit to Roswell and environs, while admitting that the Annual UFO Festival draws the "curious and the silly" as well as the serious to the community.



O'Keeffe, John Marin, Marsden Hartley and others well known for their love affair with the southwestern landscape, as well as Henriette Wyeth and Peter Hurd, of the (N.C., Andrew and Jamie) Wyeth Hurd Family. The museum also houses an international print collection with works by such stellar artists as Salvador Dali, Albrecht Durer and Picasso. Other art from the collections comprises Peter Moran watercolors from the 1880s Pueblo, works of Taos artist and WPA muralist Henry Cook and a spectacular polychromed fiberglass horse and rider by the late Luis Jimenez, who



Scheduled for Thursday July 2 through Sunday July 5 of 2009, the festival features speakers on topics to include the 1947 Roswell Incident, abductions, a UFO crash on the Texas/New Mexico border, political activism for disclosure and Mexico's UFO activities.

Due for a makeover, the UFO Museum and Research Center has purchased a full city block for a projected 35,000 square foot facility to include offices, galleries, hotel and restaurant space. For details on the museum and festival, see www.roswellufomuseum.com.

But there is more to Roswell than UFOs. The Roswell Museum and Art Center distinguishes itself with works by early modernists Georgia



Georgia O'Keeffe, Ram's Skull with Brown Leaves (detail), 1936, oil on canvas. RMAC Permanent Collection.

Continued ...

Photos from the 2009 Texas Star Party



Telescopes of all size and description fill up the western half of the north field at the 2009 Texas Star Party.

Destination Roswell.. from previous page

studied at UT Austin and taught at the University of Houston. Jimenez is also shown at the Smithsonian, the Blanton Museum in Austin and at Moody Park in Houston.

Interestingly, Museum visitors can also enjoy the The Rogers and Mary Ellen Aston Collection of the American West, with an excellent history of the region telling the part exploration, farming, ranching and warfare have played in its development. See guns and other weapons, exquisite examples of Native American textiles and beadwork along with many other cultural artifacts.

The local planetarium, under the same roof, is the perfect lead in to the Museum's soon-to-be expanded Robert H. Goddard Collection of Liquid Propellant Rocketry. Namesake for NASA's Goddard Space Flight Center, Goddard was the famed inventor of the first liquid fuel rocket. During his time in New Mexico, he and his crew "made major strides on practical matters of launch control, tracking, and recovery" and 17 of 56 flights rose to over 1,000 feet. The museum recreates and places visitors in Goddard's workshop, inches from his historic instruments and the vehicle Goddard first launched in pursuit of space--complete with tinfoil wrappings. Just look where that has landed us. Quite a trip. And so was ours.

Next time, Carlsbad Caverns!



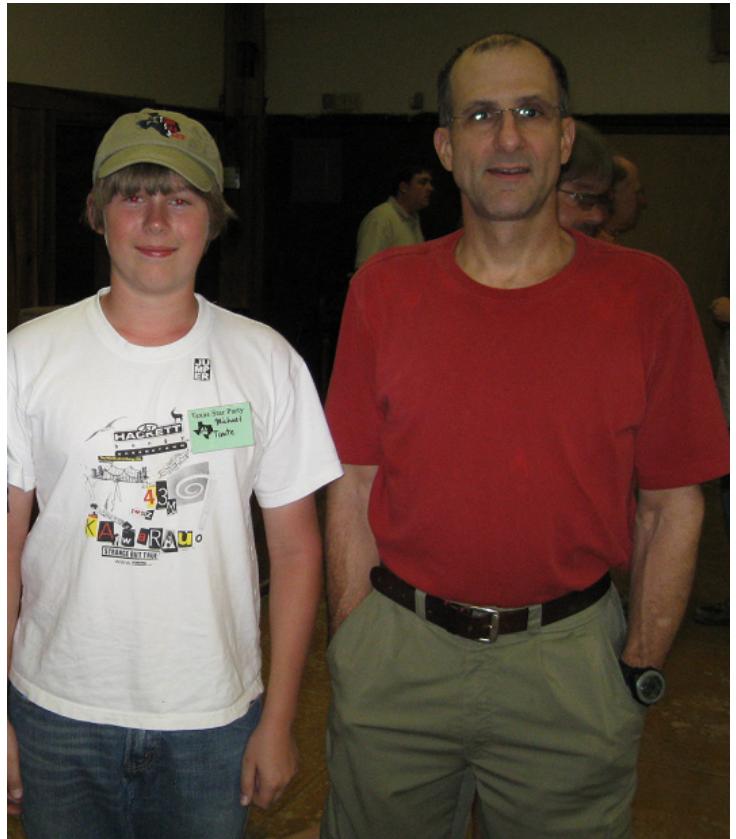
*Jeff Norwood of Camera Concepts
at the 2009 TSP vendor area*



Jose Sancho with six 'Ladies of the Night'



*What's this? Jose is a 'Lady of the Night'
What does this have to do with a chicken on
the telescope?*



*Michael Temte at his first TSP with
astronaut and presenter Don Pettit.*

Just Looking

A GuideStar Interview by Clayton L. Jeter



Doug McCormick

Doug McCormick is a great friend, a prior co-worker at “NRG Texas” (formerly Houston Light and Power Co / CenterPoint Energy/Texas Genco), and an amateur astronomy observing buddy of mine. With a keen eye for observing and logging very faint fuzzies, Doug had the distinction in 2005 of being the first HAS member to receive the Astronomical League’s Master Observer Award. To receive this award an AL member must complete at least 10 of the League’s observing programs (the 5 core programs

and at least 5 others). The core programs are the Messier, Binocular Messier, Double Star, Lunar, and Herschel. In addition to those, Doug completed the Universe Sampler.



pler, Sunspotter, Urban, Planetary, Caldwell observing programs to qualify for the award.

Many of us just talk about helping our club in some way....Doug makes a point to do it. I am very proud of him taking time to work as one of our own board members. This guy is active! If you haven’t met him during our meetings or looked through his scope out on the field...then, let’s be introduced to Doug McCormick.

The Doug McCormick bio...

A longtime resident of the Bay Area, Doug’s parents relocated here when he was one year old so his father could work for NASA at the Manned Spaceflight Center on the Mercury, Gemini, and Apollo missions. His dad bought him a small refractor in the late 60’s, and Doug’s adventure with astronomy began. He spent many evenings observing the moon as our country worked to land men on it. Doug recalls that it was a good thing he wanted to observe was the moon because the scope’s mount was so rickety it wouldn’t work for anything else. Eventually, that scope ended up in the closet like so many department store scopes, and Doug moved onto other things.

A college astronomy class (and Comet Hale-Bopp) rekindled Doug’s interest in astronomy in the mid-1990’s. He joined HAS in 1997 and feels he owes a lot of his success as an observer to his association with the club. He heeded the advice he received from HAS members and especially the novice meetings to first observe with the naked eye and binoculars to learn the sky before buying a telescope. After a year or so, Doug bought a 3.5” Maksutov and started his first AL program, the Universe Sampler, developed by HAS’s own Amelia Goldberg (could have used a little more aperture for that program, whew!!). Doug found he liked working on a program because it made him get out to observe more often. 7 years and 9 more observing programs later, he became the 48th member of the Astronomical League to qualify for Master Observer award.

These days, Doug observes with three pairs of binoculars, a 10” SCT and a 13” Dob, but he still pulls out the Mak for quick looks and filtered views of the sun. As a small way of paying back HAS for helping him get started in astronomy again, Doug has been active in serving the club for the past several years. He served as HAS Secretary from 2006 through 2008 and continues to serve on the HAS Board of Directors as a Director-At-Large. Doug welcomes questions from the members regarding the AL observing programs and observing programs in general.

The Doug McCormick interview...

Clayton: Hey Doug, great to have you sit down and take the time for this personal interview. Better yet, it’s a delight to learn from a “Master Observer”! Those were exciting times during the moon race in the 60’s and NASA was really growing... what exactly was your Dad’s work at NASA here in Houston? Did

Continued ...

Just Looking... from previous page

he discuss his work with you? Did you visit NASA years ago with him?

Doug: Yes those were exciting times. Dad was a computer programmer/systems analyst, and he did talk to me about his work. Most of his work in the Apollo days was around various telemetry monitoring programs. I remember many days watching him disappear into building 7 at the Johnson Space Center. They didn't have take your kid to work days back then, so I never got to go inside the building. Of course, we took the NASA public tour a few times when relatives came to visit. It wasn't until the day he retired in 1994 that I finally got to see his office.

Clayton: You obviously like to do the Astronomical League observing programs. Why?

Doug: For me it's simple. It makes me get out and observe more! With so many obligations and other things vying for my attention these days, having a goal to observe a list of objects helps get me out there under the sky. I find the opposite is true as well. When I don't have something in mind to observe, I often don't observe at all. There's always something else to do. So, especially for the novice, I recommend having some type of observing project.

I like the AL observing programs because someone else has done the work of putting an interesting program together, many times with an accompanying text, and they're a lot of fun. But, it doesn't have to be an AL program. It could be monitoring a list of variable stars or observing the latest list out of Sky and Telescope. With a project, I bet you'll find yourself observing more.

Clayton: You now have 10 Astronomical League observing programs under your belt, including the Master Observer award. Can you tell us a bit about why you picked the programs that you did and which was the most difficult to complete?

Doug: The first program I tried was Amelia Goldberg's Universe Sampler. I chose it because the HAS novices were working through it and it's a good introduction to the sky with astronomical objects of all types. I did the Messiers next because, for the most part, they're the best and brightest deep sky objects visible in the northern hemisphere. From there I just surveyed the AL programs and picked whatever interested me. I was always working on 2 or 3 programs at the same time, a dark site program and one that I could do from home in the suburban skies of Friendswood. I don't get out to a dark site, that often, maybe once every couple of months and TSP, so I tried to have something I could work on at home as well as some dark site programs. The AL has several programs you can do from your driveway assuming you don't live downtown: Lunar, Planetary, Sunspotter, Double Star, Urban and several others. When the Master Award was developed and I decided to go for it, I had to work on the core list programs I was lacking. As for which one was the most difficult to complete, that's easy, the Herschel 400, because it's 400 objects long and

you need a dark site for most of them.

Clayton: Haven't I seen you sketching behind the telescope while at several TSP's in the past? Is that hard work?

Doug: Yes, I like to sketch at the eyepiece. I sketched all of the Messiers and Caldwell's. I've also done some Mars sketches during the last 3 oppositions. It's not really hard work. It just takes some time at the eyepiece. A clock drive helps so you don't have to nudge the scope to keep the object centered while you're sketching. There are different ways to sketch too. Most of what I've done is pencil and blending stump on white paper trying to capture as much detail as possible. I've also done what I call outline sketching where you put in the stars in the field of view and a simple outline of the object in its proper orientation (similar to the galaxy outline in some planetarium programs). Both types of sketch are useful later as you can compare it with photographs or your planetarium software to confirm your observation.

The main benefit of sketching is it forces you to look at the object longer as you look for subtle details. As Amelia is fond of saying, the longer you look at an object, the more you will see. It's a funny thing. I find the process of going from the eyepiece to my sketch and then back to the eyepiece is often the key for me. I often see a new detail as soon as my eye returns to the eyepiece. I'm not going to try to explain that one, but I know it's true.

Clayton: I know you love attending the Texas Star Party... do you attend other parties? Is there a party in the future that you might want to attend?

Doug: Yes, I'm a TSP fan. I've been to 5 or so. I keep saying I'm going to try some of the others, but I haven't followed through on that yet. I'd like to try the Winter Star Party in Florida someday, perhaps Okie-Tex or the El Dorado.

Attending the Southern Skies Star Party

Continued ...

Just Looking... from previous page

in South America is on my life list. Observing on the banks of Lake Titicaca has a nice ring to it. I just love saying "Lake Titicaca." No idea why.

Clayton: Where is most of your observing performed?

Doug: I do most of my dark sky observing at the Columbus site and at TSP. As I mentioned earlier, I only get out to dark skies maybe six times a year aside from the TSP. Most of my observing happens at my home in Friendswood. The darkest part of my property is my driveway right out in front of my garage with nice exposure to a wedge of Mag 4 sky to the South. I saw the Milky Way from here a few times back in the 90's, but sadly those days are long gone. I do what I can to minimize the effects of the local light pollution. I have some black panels that I can erect in about 5 minutes to combat any local ambient light, and I often observe early in the morning when many of the area parking lots and stadiums are backed out. I've been experimenting recently with the use of a nebula filter and an image intensifying eyepiece. The results are mixed thus far, but it seems like it should work (Block the mercury vapor and sodium light and intensify the light that comes though the filter).

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

Doug: My wife, Sandra, tags along with me to TSP and when I visit the Columbus site. She likes to sweep the sky with 10x50 binoculars from the binocular chair I bought for her a few years ago.

Clayton: You told us that Comet Hale Bopp got you back into observing again. I know that you take notes of what you observe... do you have notes from observing that comet? Can you share one of those with us?

Doug: The first observation in my log book is on Hale-Bopp. I observed it with what I had. I never got to see it through a telescope.

3/29/1997 Friendswood, TX 8:30 pm CST
Conditions: clear, light pollution to N
Out to observe Comet Hale-Bopp with Nikon
10x50's
Direct vision in NNW, alt 30deg. Bright coma with fan-shaped tail, perhaps 0.5 deg long, running to upper right. On a clock face, margins of tail = 1 to 2 o'clock. Followed periodically until it set around 10:30p.m.

Clayton: We now know that you love observing comets (who doesn't?) What other astronomical objects do you enjoy observing?

Doug: I'm pretty much all over the place. I like planetary work and deep sky. I bought a copy of Charles Wood's book on the moon and plan on doing some lunar prospecting this year. Aside from comets, my favorite type of object is Globular

Clusters. One of the treats I look forward to at TSP each year is that first view of Omega Centauri. My favorite single object is Saturn. If it's up and I'm observing, I always give the ringed planet a look. I love showing kids the view of Saturn in my 10". They always go around to the front of the scope and look for the picture I've got suspended there!!

Clayton: In the past when observing with you, I have noticed that you record your impressions of the object seen in the eyepiece into a microcassette recorder. How does that work out for you?

Doug: The recorder works great in the field. You can record your observations right at the eyepiece. Only two downsides: (1) you have to have the discipline to transcribe the recording later, which experience has shown I don't always have and (2) it's pretty easy to say "round, dim, fuzzy" and move on. Using a paper log at the eye piece makes me go back and forth a few times between the eyepiece and the paper. As I mentioned earlier, I often see new detail when I return to the eyepiece.

Clayton: Got a tough question for you. In the not-so-distant future, what will Mr. Doug McCormick be working on in the next 15 years (the year 2024) with his telescope? Got a clue?

Doug: I've been almost exclusively a visual observer since I got back into astronomy. My plan, formed a few years ago, was to stick to visual work while my eyes are good, and move to imaging when/if my eyesight starts to worsen. I don't know if this makes any sense at all, but I figured when the pupils no longer want to open up at the eyepiece, I could probably still see a laptop screen. I noticed my arms are no longer long enough to allow me to read without cheaters, but I'm still not ready to give up my eyepieces for a camera. I'll probably get there though. Chances are in 2024, I'll be trying to figure out why my astro-images aren't any good.

Continued ...

Just Looking... from previous page

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

Doug: The best advice I can offer to new observers in the Houston area is to get involved with the HAS novice program (or a similar program at any club). It's the best place to sit, listen, learn, and get your questions answered. It's no secret that half the folks that attend the HAS novice meetings aren't novices. There's experience there to be tapped, and these people love to be asked for their help. If they didn't, they wouldn't be in there.

You don't have to start out in astronomy with just the naked eye and binoculars the way I did. But spending some time identifying and learning to recognize the constellations and learning to star hop to objects using both eyes and the binoculars' large field of view will pay you great dividends. It will make things much easier when you start trying to locate objects in a telescope. If you already own a telescope and haven't learned the sky, take some time from each observing session to identify as many constellations and bright stars as you can. If you have kids and find yourself under dark skies with them, point the constellations out to them and learn them together. Kids love constellations.

If you have a GOTO telescope and you're in skies dark enough to star hop, do some star hopping. Before GOTO, visual astronomy was a two-part activity: (1) locating or hunting for the object, and then (2) observing it. If you GOTO everything, you're missing half the fun!! So don't forget to experience the thrill of the hunt. Just manually drive that scope through the star hop using the up, down, left, and right buttons. After you've bagged the object, you can punch in the object name and hit the GOTO. If your scope stays put, presto, instant confirmation you're on the right object. If it slews away, it's back to the beginning of the hop to try again. So with GOTO, you have the best of both worlds. You can still star-hop and experience the hunt, and in light polluted skies where you can't see the stars enough to star-hop, you have the GOTO to get you there.

Generally, new observers are advised to take your time and linger on each object in order to see as much detail as possible. After all, it's not about blazing though your lists; it's about enjoying the splendors of the night sky. BUT, I've observed with some that really liked the thrill of the hunt more than anything else, and they'd get board if they lingered too long. So I would say figure out what works for you, what you like, and stick with it. I guess that's the point of our adventure with amateur astronomy, to find out what part of it you enjoy and to pursue that.

Have Fun!!

Clayton: Is there an email address that you have that a Houston Astronomical Society member could contact you for an addi-

tional question or two?

Doug: skygazer10@sbcglobal.net

Clayton: Thanks Doug for taking the time to share your interest and thoughts with us for our monthly HAS newsletter, "The Guide Star". We wish you luck with all of your astronomy interests. Thanks too for being such a dedicated HAS member. Clear skies, always

Publicity Suggestion Box

I welcome any suggestions that any member has to offer. It doesn't matter how trivial you think your idea may be. All input will be reviewed and welcomed.

Let's grow.

Please drop me a note at the following address.

itjdm0@yahoo.com

John Missavage - HAS Publicity

Scoring More Energy from Less Sunlight

For spacecraft, power is everything. Without electrical power, satellites and robotic probes might as well be chunks of cold rock tumbling through space. Hundreds to millions of miles from the nearest power outlet, these spacecraft must somehow eke enough power from ambient sunlight to stay alive.

That's no problem for large satellites that can carry immense solar panels and heavy batteries. But in recent years, NASA has been developing technologies for much smaller microsatellites,



Helen Johnson, a spacecraft technician at NASA's Goddard Space Flight Center, works on one of the three tiny Space Technology 5 spacecraft in preparation for its technology validation mission.

which are lighter and far less expensive to launch. Often less than 10 feet across, these small spacecraft have little room to spare for solar panels or batteries, yet must still somehow power their onboard computers, scientific instruments, and navigation and communication systems.

Space Technology 5 was a mission that proved, among other technologies, new concepts of power generation and storage for spacecraft.

"We tested high efficiency solar cells on ST-5 that produce almost 60 percent more power than typical solar cells. We also tested batteries that hold three times the energy of standard spacecraft batteries of the same size," says Christopher Stevens, manager of NASA's New Millennium Program. This program flight tests cutting-edge spacecraft technologies so that they can be used safely on mission-critical satellites and probes.

"This more efficient power supply allows you to build a science-grade spacecraft on a miniature scale," Stevens says.

Solar cells typically used on satellites can convert only about 18

percent of the available energy in sunlight into electrical current. ST-5 tested experimental cells that capture up to 29 percent of this solar energy. These new solar cells, developed in collaboration with the Air Force Research Laboratory in Ohio, performed flawlessly on ST-5, and they've already been swooped up and used on NASA's svelte MESSENGER probe, which will make a flyby of Mercury later this year.

Like modern laptop batteries, the high-capacity batteries on ST-5 use lithium-ion technology. As a string of exploding laptop batteries in recent years shows, fire safety can be an issue with this battery type.

"The challenge was to take these batteries and put in a power management circuit that protects against internal overcharge," Stevens explains. So NASA contracted with ABSL Power Solutions to develop spacecraft batteries with design control circuits to prevent power spikes that can lead to fires. "It worked like a charm."

Now that ST-5 has demonstrated the safety of this battery design, it is flying on NASA's THEMIS mission (for Time History of Events and Macroscale Interactions during Substorms) and is slated to fly aboard the Lunar Reconnaissance Orbiter and the Solar Dynamics Observatory, both of which are scheduled to launch later this year.

Thanks to ST-5, a little sunlight can go a really long way.

Find out about other advanced technologies validated in space and now being used on new missions of exploration at nmp.nasa.gov/TECHNOLOGY/scorecard. Kids can calculate out how old they would be before having to replace lithium-ion batteries in a handheld game at spaceplace.nasa.gov/en/kids/st5_bats.shtml.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

• NASA's Space Place •

ADVANTAGE

Telescope Repair



- *Custom paint optical tubes and mounts*
- *Telescope restoration*
- *Telescope upgrades*

Call 713-569-7529 for complete service

Note to readers: The ads in the *GuideStar* appeared for several months and are no longer on the web site. Any new ads that are provided to the editor will published in future issues.

*Email your ads to Kay McCallum, our Webmaster, at
KayM@McClibrary.net and to Bill Pellerin, GuideStar
editor at billpellerin@sbcglobal.net*

Epsilon Aurigae - IYA project

by Bill Pellerin, GuideStar Editor

Object: Epsilon Aurigae, Almaaz

Class: Eclipsing Binary Star

Magnitude: 3.0 to 3.8

R.A.: 5 h, 01 m, 58 s

Dec: 43 degrees, 49 minutes, 24 seconds

Distance: 2000 ly

Constellation: Auriga

Size: n/a

Optics needed: Naked eye, binocs, wide-field telescope

Why this object is interesting.

This year, 2009, the International Year of Astronomy is also the year during which Epsilon Aurigae is expected to go into an eclipse. Big deal? Yes, it turns out that it is a big deal since the eclipse only occurs every 27.1 years. There will be a lot of telescopes covering the antics of this star, and yours could be one of them!

First, you need to know that Epsilon Aurigae will drop from its normal magnitude of 3.0 to a noticeably dimmer 3.8 as it goes into eclipse beginning about mid August of this year. The eclipse period may last as long as two years and there may be a slight brightening of the star at mid-eclipse. It was discovered to be variable in the early 1800's.

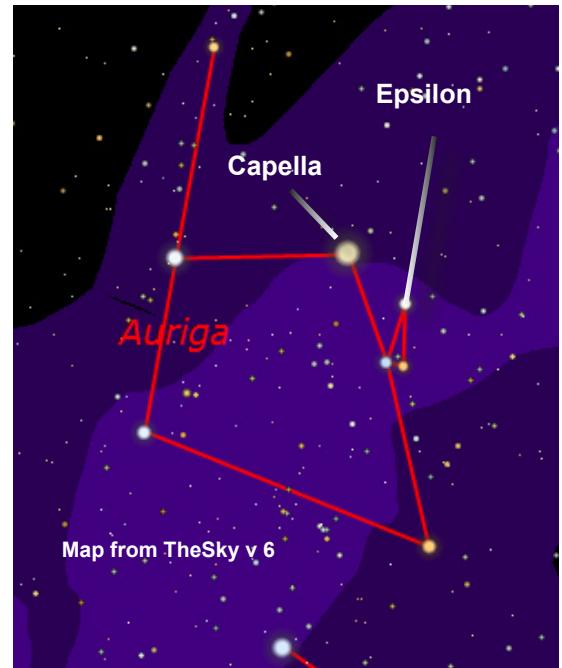
The current model of this star system consists of a central F0 (white) star almost 3000 times as large as our Sun. The model suggests that the F0 star is orbited by a disk of dark material which contains two stars that are rotating around their center of mass (independent of the main star). The two stars may be creating a 'hole' in the disk allowing the mid-eclipse brightening to occur.

The AAVSO (American Association of Variable Star Observers) is organizing a IYA event with the goals of:

- engaging as many citizen scientists as possible to observe this star
- acquiring the observations needed to better understand what's going on at Epsilon Aurigae.

Go to www.citizensky.org

There, you'll find links to various resources including information on signing up for workshops, a 'Ten Star Tutorial' on variable star observing, ways that you can get involved, and links to even more information on this event. There are two workshops coming up, one in Chicago and



one in San Francisco. There's even a Twitter name you can 'follow'. Look for epsilon_Aurigae at Twitter.com. As of this writing, the name has 38 'followers'.

The May, 2009 issue of *Sky and Telescope* magazine devotes 6 pages to this star (beginning on page 58) and provides you with a lot of additional information you can use to follow this star during its eclipse. The author of that article is posting information at this URL:
<http://mysite.du.edu/~rstencel/epsaur.htm>

Normally, I wouldn't recommend an object that isn't going to be easily observable in the month in which the article is published; Epsilon Aur is too near the Sun on the sky to be easily visible. In this case, however, there's good reason to do so. You will want to prepare yourself to observe this interesting object when it reappears in the morning sky later this year.

Remembering Rick Hillier

With the passing of Rick Hillier on May 20th HAS lost a special kind of observer of this great universe. The kind of observer who would call you all week leading up to a new moon encouraging you to make observing plans even if the weather did not look cooperative. The kind of observer who would whoop at the beauty of what he had captured in his eyepiece. The kind of observer who found no greater pleasure than sharing the spectacular view he was enjoying. The kind of observer with whom you could enjoy passing the time till the sun went down and the night sky enveloped you. You can sum it up by saying the kind of observer who looked at the universe with a curiosity and a passion. We will all miss him.

Ed Fraini



Membership Renewals...

Your membership is renewable on January 1 of each year.

Total yearly dues are \$36.

Your payment for 2009 is due as of January 1, 2009.

Magazine subscriptions can be renewed at any time and the renewal does not need to be synchronized with your HAS dues.

Membership in the Houston Astronomical Society is one of the great bargains in Astronomy. For a regular membership of \$36 you get the opportunity to support an active and growing organization, you get the monthly **GuideStar** newsletter, and you get access to the outstanding H.A.S. **observing site** near Columbus, Texas. (You must attend an orientation, given regularly, to use the site.) And, after two months of membership you can borrow, at no charge, one of the Society's **loaner telescopes**. It's the best deal in town, we think. Please renew your membership when it expires.

Encourage other astronomy enthusiasts to join the organization as well. It's a great group.

Thanks!

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. Meetings are in Room 117 of the Science and Research Building at the University of Houston. A Novice Presentation begins at 7:00 p.m.. The short business meeting and featured speaker are scheduled at 8:00 p.m. Also typically included are Committee Reports, Special Interest Group Reports, current activity announcements, hardware reviews, an astrophotography slide show by members and other items of interest. Parking is NOW across from Entrance 14, by the stadium.

Board of Directors Meeting

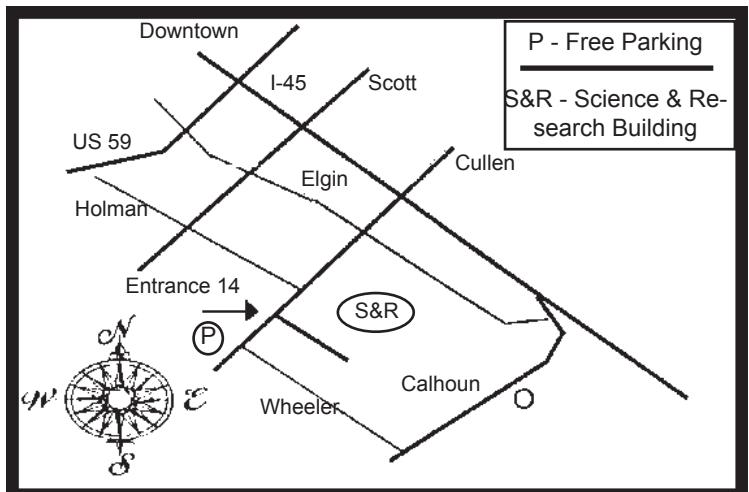
The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. at the Houston Chronicle office, downtown. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

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.

Editing & Production: Bill Pellerin, 713-880-8061; FAX: 713-880-8850;
Email: BillPellerin@sbcglobal.net

Advertising: Advertisers may inquire concerning ad rates and availability of space.



Houston Astronomical Society

Meeting on Friday, June 5

7:00 Novice & Site Orientation

8:00 General Meeting

University of Houston

Houston Astronomical Society

P.O. Box 20332 • Houston, TX 77225-0332



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 banquet with a special guest
- 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.**