

GuideStar



October, 2010
Volume 28, #10

At the October 1 meeting...

Lunar Meteorites and Their Secrets About the Origin of our Moon

Dr. Juliane Gross



Lunar meteorites have been found on Earth for some time. One of the best, but most difficult to reach, places for finding these meteorites is Antarctica. Dr. Gross will talk about finding the meteorites and about what the meteorites tell us about the origin of the Moon.

Dr. Gross received her Ph.D. in 2009 and is now a postdoctoral fellow at the Lunar and Planetary Institute near Houston.

She was recently announced as the winner of the prestigious Niedermeyer Award from the Ruhr University in Bochum, Germany. This award is given for the best Ph.D. thesis discussing "Mineral Solubility Measurements at High Pressures"

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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.

Schedule of meeting activities:

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

Novice meeting: 7:00 p.m.

Brian Cudnik — 'What's New Under the Sun'.

General meeting: 8:00 p.m

See last page for directions and more information.



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

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.

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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

2010 Star Party Dates

- 10/9 All clubs annual picnic
- 12/4 HAS members only

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

Observations... of the editor

by Bill Pellerin, *GuideStar Editor*

Rainy days...

If last month I was able to talk about having clear skies, this month I can talk about cloudy and rainy skies. Not much observing going on and the various star parties in the area, partly in celebration of International Observe the Moon night were mostly clouded out.

I'm behind on things, however. I continue to have variable star data to analyze, I need to complete this issue of the *GuideStar* and I have a couple of other writing projects to do.

As I write this, fall will begin in two days (9/22) at 10:09 p.m. I can tell that the days are getting shorter now. When I wake up it's darker than I've become accustomed to. We haven't had much in the way of cool weather, though, and I am very much looking forward to a cool observing night, with clear skies.

The first day of fall is also the equinox — the duration of daylight and dark are the same — and from that day until the vernal (spring) equinox in March, the nights will be longer than the days. Great news for those of us interested in observing the night sky.

On the equinox, the Sun crosses the equator (from our point of view) and moves into the southern hemisphere. For our friends in Australia, this is the day on which Spring begins.

Is Amateur Astronomy Expensive?

There are a lot of people who believe that amateur astronomy is expensive. The truth is different. As an activity it doesn't need to be expensive at all. As a HAS member you have access to all of the loaner telescopes that the club owns. As a member, you can take home one of the loaner telescopes for two months to both try out the telescope and to decide whether you like the activity.

Also, as a member, and with training, you can use the telescopes that are in the HAS observatory at the observing site.

There are a lot of telescopes on the market that can be purchased at a reasonable price (beginning at about \$50) and can be used for a lifetime.

Any investment in equipment can pay off for you in many nights of fun under the stars. Buying equipment (golf clubs, for example) that you don't use is not a good investment, but buying a telescope that you use on a regular basis can be a great investment.

We all have to make trade-offs in our budget. We may have to get

a less expensive car so there is money available for telescope equipment. Where there's a will, there's a way.

Happenings in October

October is going to be a great month for astronomy. It's the first full month of fall, so it will be cooler in the evenings. The nights are longer and the days are shorter, meaning that you have more observing time per night than you've had since March.

Also, October is the month for the All Clubs meeting (Oct 15) and the award winning Astronomy Day event at the George Observatory (Oct 16). If you haven't volunteered to participate in Astronomy Day do so now.

Go to www.astronomyday.info for more information.

Until next time...

clear skies and new moons!

..Bill

Just Looking

A GuideStar Interview by Clayton L. Jeter

David & Connie Haviland



The first time I met David and Connie Haviland was at a Johnson Space Center Astronomical Society meeting about half a dozen + years ago. The next encounter was on the observing field at Fort McKavett (in darkness) as they were trying to align



their equatorial mount that supported their Meade Schmidt Newtonian telescope. I only recognized them at first by voice (this happens to me a lot with folks observing in a dark area). It was fun listening to them with their new toy. They were so excited with it. The old saying I've heard through the years, "The family that observes together stays together". That is very true with the Haviland's.

David is the current president of the JSCAS and Connie is the editor of the club's *Starscan* newsletter. They are very active in their club business, and astronomy at the eyepiece. Saying both are dedicated is simply an understatement. I'm not sure where all their energy comes from.

You're really going to enjoy reading this month's interview with a local astronomy couple. This cosmos-loving couple has a lot to say...

The Haviland's bio's...

David Haviland...

I can't exactly say where my interest in astronomy came from, although I will say that courtesy of Cub Scouts and Boy Scouts I knew a couple of constellations before I ever owned a scope! Those were the Big Dipper (which at that time I thought was a constellation until I learned what an asterism was), and I knew Orion because of the belt. I'll come back to the belt and Orion later....

Not to date myself, I'm a product of the Gemini and Apollo days. My first recollection of consciously hearing something on the news about our efforts with space was Gemini 6. From that point on, I was hooked. My dad was in the USAF and I dogged him with a constant barrage of questions through the years... I had

models of rockets and I was into rocketry neck deep as a kid having both Estes models of the Saturn 1B and V and boasting a collection of 80 "birds" at one time. My favorite competition was Scale Modeling and B and C engine boost gliders where in Jr. High School I had designed my own swing-wing style of glider. Anyway... back to space and astronomy: I was one of those kids that in July of 1969 I was in summer school in Santa Monica and we were allowed to stay home to watch the launch of Apollo 11 that morning. My dad was in Saigon at the time but I remember as though it were yesterday, that Sunday night my mother and I parked in the master bedroom glued to a 14" B&W Zenith TV watching Buzz and Neil. I don't want to belabor the space race but I was one of those few kids that was really PO'ed that the real science of A15, 16, and 17, never made it to news or public until well after the fact.

My interest in space continued through the shuttle program, where my late father was Asst. Chief Engineer for Airframe Structure and Support when he retired from the program after Challenger.

So there was already an interest in space... and my then father-in-law who lived in So. California, I guess, managed to get a deal on a Celestron Star Hopper 6 and he brought it with him when he came by plane to visit us in Houston. I had no earthly idea what to do with it so it sat for a couple of months but one day I felt the moon calling.. I know that sounds goofy and new-agey but given my love of the Apollo program I spend a lot of time looking at the moon naked eye and I knew the scope would show me more.

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Many astronomers curse it, but I think it is wondrous to have that thing hanging in the sky. So I put the scope together and of course did the wrong thing and looked at a full moon for a night which made negotiating the patio furniture a challenge. I visually mapped the Apollo landing sites using the beginner's book written by and now autographed by David Levy. Well, that was fun and now that I'm getting into imaging (later) I do plan to earn my lunar observing certificate.

But I knew I needed to move on from the moon. The scope did not come with a spotter of any kind so trying to target shoot anything was frustrating to say the least. It took me the better part of 30 minutes to cue up Betelgeuse and once I did, I was rather disappointed frankly. All that work and it was just a big red star! Little did I know what lay below Orion's belt!!! So to make a long story short, given that I live in Pearland, a good friend at the time recommended JSCAS back in about 1998 and I ended up in a rather healthy email exchange with Becky Schultz (Ramatowski) and Lisa Lester. Within two weeks I was at one of the clubs star party's at Challenger Park where I met Becky and Lisa in person as well as Triple Nickel, Ken Lester, and Ed and Eleta Malewicz. Most of all, I learned what a Telrad was and what it was for, and how badly I needed one -- which became my next purchase. My first meeting was later that month when Hernan Contreras was president.

As I learned I observed more from my backyard and did a few more star parties with the club. I should back up and state that once I got that Telrad for the 6" the first object I ever found on my own was at about 4:30 in the morning and it was M42 and my love affair with M42 hasn't faded one bit since. I can't say what but something got me up at that hour and for whatever reason I took a look outside and as crisp as it can be for Pearland, was Orion in the eastern sky. I made a pot of coffee and brought out the 6" and was glued to it until the sun came up. I later made a trip out to Fort McKavett in April of 2001 where the club goes twice a year (Fall and Spring), and I had never seen such dark skies. At the Fort, I actually had a hard time for a few minutes in finding Orion given all the background stars that made themselves apparent.

In the interim, I longed for a clock drive and I found one on Astromart, an older Criterion equatorial mount. I had some custom rings made and I remounted the reflector from the Dob mount to the equatorial mount. Life was good I thought, my scope was now on a clock drive. During all of this, wife number one and I parted company, but I kept the scope! I stayed a bachelor for a while and while perusing the Yahoo personals, I noted this cute gal named Connie who lived up in the 1960/Jones area that made a passing reference to liking camping - anything outdoors - photography and a key word was "astronomy". In turn, she seemed attracted to my Yahoo moniker of NGC457ET and

among the throngs of emails from potential suitors she wrote me back to ask about that. One thing led to another after a number of dates, and I asked if she wanted to come with me to the Fort one October and she said "yes". I figured there was something there if she agreed to hop in the car and come starhopping for three nights. Well that was an adventure... she was totally taken back by the view of the night sky because at the Fort you can, on a crisp night, almost see your shadow by the light of the Milky Way. What was funny was that the first night I had a short list and we hunted down a number of objects that night. We sort of tag-teamed in finding objects the second night but on the third night I began to wonder who really owned the scope!

Ok... time to fast forward... we now have 5 scopes in the house. In addition to the 6" Star Hopper that I have since remounted back onto its original Dob mount, I have a CGE11 which I adore. Connie has her Meade Schmidt-Newtonian 10" on an Orion Atlas mount. I might add, and her son John has an Orion 6" Dob. The 5th scope is an Orion Wide Tube 80 that ultimately is my imaging/ guiding spotting scope for my CGE11. I sometimes lust for 14 or 15" truss tube Dob but we are somewhat out of room when it comes to storage.

There comes a point where everyone who is in a club needs to help their club. What I'm saying doesn't just apply to JSCAS but to whatever club you are in - there is something no matter how small that you can do for your club that will help. You can't just sit there and take what an organization has and not give anything back so for me, the first job I took in JSCAS was being secretary for the club to help process the discounts for *Astronomy* and *Sky & Tel*. Since that first trip to the Fort in 2001, Bob Taylor and I had become friends and when he ascended to the top position after serving with Ed Malewicz, I asked if he wanted a VP which was where I volunteered. The "Bob and Dave" show ran for 3 years and during that time Connie also became *Starscan* editor. In Jan of 08 I accepted the clubs vote of confidence and I have been President for what will be 3 years now. If you told me at that first star party back in 98 or 99 where I met Ken, Lisa, Becky and Triple, that I would eventually ascend to helm

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of JSCAS, I would have told you that you were nuts. After 2010, I think I'd like to take over the *Starscan* from Connie, work with our novice program and work more on imaging. I have a Canon camera that I've been mounting on that CGE11 and I hope to earn my Master Messier by photography rather than sketching, the same applies to earning that lunar certificate.

I will occasionally attend HAS and FBAC meetings when I can, where I can sit in the cheap seats! Occasionally, I will volunteer at the George helping with the Research Dome. I've enjoyed working Astronomy Day and working at the park when I can. Now my daughter Sarah has asked to join me when I sign up to work the Research Dome.

Connie Havliand...

Ok, where do I begin? I grew up in Peoria, IL (who happens to have a really nice astronomy group there, but I never knew that growing up). I was raised with 5 brothers, 3 older, 2 younger, and the brother before me and the one after me were both in Scouts. We did a lot of camping and fishing and I remember camping out west, in places like South Dakota and Wyoming where the night skies were not obstructed by light pollution. Here, I saw my first shooting stars. I was awe-struck by it.. or maybe we could say "star" struck.

It wasn't until my son, John, was in scouts and attending Winter camp at Camp Strake, did I get my first "taste" of looking through a telescope. Not being an "astronomer" at the time, I couldn't tell you what type of scope it was, except it was a reflector. Here, I saw Saturn for the first time with the rings and it wasn't on a science book page. Again, I was amazed by what I saw.

Fast-forward 6 years. I meet David. He noticed on a profile that I loved the outdoors and camping. We started to exchange emails, conversations on chat and found out that both of us were parents of a scout. Finding this to be a common ground, our relationship grew. We went to Fort McKavett together and here I saw the Milky Way for the first time. I cannot begin to tell you how fascinated I was with astronomy. I did not own a scope, so David let me use his. Well, it was suppose to be "shared" but I seemed to be so caught up in finding "fuzzies" that I basically took over the scope (insert a chuckle here). I was hooked. Where can you find a whole new world that is surrounded with beauty, amazement and peace and quiet? Answer... out, away from the cities' lights, starhopping.

Since then, my mother passed away and I inherited some money. It is this inheritance that has allowed me (a single mom at the time) to purchase my scope. I have a 10" Schmidt Newtonian, as David has mentioned. We have changed the mount in order to accommodate the size of the scope. I am truly blessed with an awesome scope with great optics and it allows me to

enjoy starhopping with little complications.

I joined JSCAS back in 2001. With the many trips to Fort McKavett and the various starparties, I have found that I could contribute my abilities with the monthly newsletter, the *Starscan*. I am the editor and I am the writer for the childrens' section, *Kids and Astronomy*. I have a history of working with the Cypress Fairbanks ISD and teaching, so this has filled an area that I am no longer participating in. I, too, am like a child learning about our great universe. So I feel that I can learn, and teach, the many things there are to learn with astronomy in our "kids' section" there in the newsletter. Even if David takes over as editor, I will continue to contribute toward that portion of the newsletter.

This is a family affair, just as David has said. We have several scopes. My son, John and David's daughter Sarah are active in the club and eventually I am planning on bringing in my grandson, Caden and introducing him to the wonderful world of astronomy.

The Haviland's interview...

Clayton: It is so wonderful to have a real astronomy family here for this enlightening interview. Thanks for taking the time for our readers.

Let's get to it... why in your own words is there such a passion for astronomy in your hearts?

David: I've always been looking up. I grew up in the 60's and became aware of our efforts in space and was glued to the TV when Apollo 11 landed. Like many I was also angered that nothing past Apollo 17 flew and that Apollo 18 & 19 are now museum pieces lying on their sides. I was always looking up at the stars and the moon and courtesy of scouts knew about the Big Dipper and Orion. All I can say, Clayton, is that it just "grew" within... A telescope arrived as a gift back in 1998, a Celestron Starhopper 8, which we still have and the first thing I looked at when I put it together was the moon, trying to visually map the Apollo landing sites. To make a very long story brief, shortly after putting it together I found myself in the

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company of JSCAS where I learned about Telrads, Starhopping, and my love for the activity just exploded from there. Appreciating the 3-dimensional aspect of our universe is what keeps drawing me back to the telescope. It is all too easy to perceive the sky as two dimensional.

Connie: The fact that it is part of us, yet so far away. It has me asking many questions, the “what if”, the “how does it work”, the beauty of it. I don’t know anyone that doesn’t look up at the stars and some emotion be struck inside. The infamous, “shooting star”, even if it is to make a wish. I am a religious person and I thank God every time I look up, for giving me such a wonderful “playground” to enjoy.

Clayton: Do you think that by becoming involved in astronomy, it has somehow changed a direction in your life?

David: Tough to answer... it is definitely an activity that requires patience. I’ve come up to the scope after driving half the day to get to a dark site and wanted to see an object “yesterday”, and it never works. To me, astronomy demands patience and I find it therapeutic to get me to slow down. It is probably why I like to camp when I observe as that gets me away from work altogether (my day job is research faculty at UT in the Med Center). It is part of wanting to get away where I prefer to camp and observe in remote locations. It has definitely changed in the number of scopes we have!! We started with the Celestron 6” Starhopper and now we are up to 5 scopes!

Connie: It has changed it in a way that has “added” to my life. It allows me to do things like the *Starscan* and the children’s section. I do get involved with the community this way and I can actually add to the scout troop with my experience. Then again, it brought David and I together and THAT changed the direction of my life..(insert chuckle)

Clayton: How and why did you two decide on the purchase of a Schmidt Newtonian telescope? Who’s idea for this hybrid scope design (they are quite rare on the observing field)? How are the views?

Connie: I think it was by accident, actually. It has been a while, but I was the one who decided and chose the Schmidt. I looked in magazines like *Sky & Tel* and *Astronomy*. Found plenty of *Orion* magazines at David’s place (grin). Let me say this, I like the options that it gave me. I asked the club (via the list-serv) what size of scope to get and was told, “the bigger the aperture, the better). The views? AWESOME. I must say, for it being my first scope, I am spoiled. David has had several and seems to feel that the optics on this one is very good. I just have to learn how to use my “go-to” so I can do better at star parties.. Why? because time is important there. People don’t understand what “star-hopping” is all about and that takes time. So I want to be able to get to something fast and this scope offered me all the things I needed and wanted...relatively big aperture, pretty much mobile (not too heavy to carry), great optics and affordable.

David: I vaguely recall that it was at one of JSCAS’s Winter Soltice parties where I swear Triple Nickel mentioned it to Connie and she may have taken note of his comment. None the less, the choice of the scope was entirely hers and as she said, the optics are incredible. Very crisp. She made a wonderful choice. Through the net, I have seen this tube mounted on Losmandy and CGE mounts. Our issue was the LX55

mount could not support the weight of that SN 10” tube. At 32 pounds without the Telrad the original mount was straining and failing. We found the Orion Atlas mount was more than ample to handle that tube. It’s been at least once that we only took her scope to Ft. McKavett solely to enjoy the optics and viewing.

Clayton: Tell us about a typical observing session. Do you always observe together? Where?

David: In the beginning, yes, especially when we opted to take but one scope out to Ft. McKavett. Now we take at least two, sometimes three scopes. To some degree we set up our observing lists separately. Our list can and sometimes do overlap if I’m not trying to image anything. Hehe... our lists are the same if we take only one scope. Her favorite time is October, especially with Sagittarius and everything nested in that area. I can never get enough of Orion. M42 was the first object I ever found on my own and the love affair continues to this day.

Connie: Typical is really spur of the moment. We are a family of 6 and a very active family. So whenever we get a chance to go starhopping, we usually do. LPI is a favorite place close by, they love to have us. Fort McKavett is my favorite. I am hoping to figure out a way to ‘pack’ our scopes so that when we go camping in areas that I have on my “Must show Dave and the kids this place” list, which includes the place where I saw my first shooting star (South Dakota among others). We can take the scopes along.

Clayton: In your opinion, which one of you has the better eyesight for finding those little fuzzies?

Connie: duh!!! Me, of course. Hehe

David: Yes.. that is no-brainer! There are times we went to Ft. McKavett with just one scope. At that time I had the Starhopper on a equatorial mount. We “tried” to divide the three nights by who was going to find what on what night. Earlier in the afternoon we’d

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write out a plan based on what was in the sky. We'd find most of what we were wanting to see, but I can't tell you how many times I'd hear "I found another fuzzy!!...". I'd look through the Telrad and sometimes it was what we were looking for, but other times she'd say that I'd find that we were off some 5 degrees or so and she'd stumbled across some NGC. It's was just a hoot. I know she likes nebulas, but I think hands-down, globs are her favorite.

Clayton: Outreach is very important in this hobby. Do you have any ideas for bringing young folks onboard?

David: It has been an obsession with me. I think all of our clubs have had attendance/attrition issues. As the numbers go down a big part of it is not to burn out your existing members out so we have focused our efforts within JSC, the surrounding community through community newsletters and by making as many connections within the local schools as possible. I've actually done more outreach with local star parties than for my own observing. We are trying to hooking up San Jacinto College South Campus as well as the Physics Department at UHCL (right in our own backyard). It's a bit off topic but I love working ADAY seeing the enthusiasm in the faces of attendees.

Connie: I have our club on Facebook and I tell friends. We have a newsletter that Jim Wessell has set up and Dave can tell you more about that and his "ad" in the local newspapers that go around to this area.

Clayton: So where is each of you going in the pursuit of amateur astronomy... or are you both working on the same projects/programs?

David: I can't sketch for diddly. So my goal to earn my Master Messier is to image them. So I have made efforts to strap my Canon 40D on the back of the CGE11 and I have had some decent results so far. At some point I'll put them up on a page that Connie and I have but not until I get some mentoring from the clubs imaging guru, Al Kelly. My initial goal in imaging isn't so much to rub elbows with the local gurus or get published on APOD, but simply to get images that I enjoy, look good and that I can be proud of. Deep sky objects aside, I also intend to extensively photograph my favorite, the Moon, in the process of earning my Lunar certificate. My 40D is standard issue and isn't modified and so I've found some limitations in using it as my efforts with M57 were very telling. That may drive me over to the CCD side or find an older 20D that has been modified.

Connie: David is dying to do CCDing. Me? I just want to enjoy it. It is really like therapy for me. A form of "get-away from it all". I might try to do some astrophotography in the future, but it isn't calling me quite as loudly as it is calling David.

Clayton: Do you have an amateur observing mentor?

David: Too many to list. Ken and Lisa Lester, Kurt Mauer, Triple Nickel, and Becky Ramotowski were very influential in getting me started and stressed the importance of learning starhopping. Then as I worked my way into the club, Bob Taylor, Ed and Eleta Malewicz, Al Kelly all influenced how I do things today.

Connie: Anyone in our club is like a mentor to me. I will say that Lisa Lester was the closest to that status when she lived here. But I have to say,

anyone in the JSCAS club will help you if you ask. I even ask David from time to time. (grin)

Clayton: Other than Fort McKavett, do you have a favorite star party that you attend regularly?

David: yes.. the backyard here in Pearland is one spot but we do have some light pollution to contend with but fortunately nearly all of the street lights are blocked by houses. I've been to the Columbus site many times with my BSA Troop (Troop 404) from Pearland but have yet to pull the RV out there. I periodically observe at the George and help Tony Weise out in the RD and the skies there are pretty good.

Connie: My backyard. Yes, one can observe some from the backyard.. and it is great when you need that HOT cup of coffee or you are a bit tired and want to rest for a while. I have some ideas in mind that I want to add to the list, but need to do some more "data gathering". I know Columbus is great and HAS has a wonderful set up there.

Clayton: How do you envision amateur astronomy in the next 25 years?

David: Without a doubt, probably even more computerized than it is now! Guiding your scope by wireless remote and doing within the comfort of an RV (not that I do that) has its advantages in the heat and bugs. At the same time, I think having one's eye to the eyepiece is something that will never go away with time. The "ooh's and aahs" we hear when people see an object for the first time can never be appreciated the same way over a computer screen.

Connie: I think as long as there is a sky and stars, it is going to continue to be a fascination and people are going to want to do it. Especially when you tell them that they really don't need a scope to observe. Telling them about the binocs has captured a lot of attention. With astronomy being in college now as a credited course, it is going to keep astronomy alive.

Clayton: Do you have any helpful advice to

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pass on to observers just starting out in astronomy?

David: Don't forget the basics of Starhopping and visual observing. Too much into today's worlds of iPods, technology, double lattes, and the get it yesterday attitude, I see too many new people eyeing the go-to systems. Yes, I'm being a tad sarcastic but I recall a poignant letter in *Sky&Tel* which I'm sure was penned by Richard Nugent claiming the virtues of learning the sky and not be solely dependent upon go-to systems. Call me old fashioned but I couldn't agree more. More often than not, I'll set up my CGE11, polar align it, and if I'm not trying to image, I'll take the scope and star hop rather than use the go-to. Starhopping saved my behind one day at the George. I was there with Tony Weise and the computer "blinked" and it was still on the clock but it had lost its orientation. We had a crowd outside and I suggested a new object and Tony handed me the controls and asked if I could hop my way there (M57). Once I got my bearings on where Lyra was, I just used that itty-bitsy TelRad on that big 36" and walked it over. I owe a debt of thanks to those that I mentioned that were influential in stressing the importance of starhopping.

Connie: Go to a star party. Then add a meeting and meet those who are doing it.

Clayton: Is there an email address that you two have that a Houston Astronomical Society member could contact you for an additional question

or two?

David: starhopper457@gmail.com

Connie: conniestarscanaccount@gmail.com

Clayton: Thanks David and Connie for taking the time to share your interest and thoughts within our HAS newsletter, the *Guide Star*. We wish you luck with all of your astronomy interests. Please come visit our society on the first Friday of the month, we'd love to see you.

Clear skies always!

David: Thanks for the opportunity Clayton!

Connie: Thank you for the invite and I hope that I can be of any help to those who want to explore this wonderful universe...

Camp for All Volunteer Opportunity

- Near new moon
- At Camp for All near Brenham (dark skies)
- Contact Bill Pellerin — billpellerin@sbcglobal.net
- Sign up on the NightSkyNetwork web site — <http://nightsky.jpl.nasa.gov/>
- Look for the GHAC — Greater Houston Astronomical Coalition
- Check page 14 of this *GuideStar* for more information

Society Update

Minutes of the Houston Astronomical Society

By Rene Gedaly, HAS Secretary



Call to order. Welcome new members

Rene Gedaly, HAS secretary and acting president, opened the general membership meeting on September 3, 2010 at 8:03 p.m. Katie Keane, welcome chair, introduced visitors and new members. The Houston Astronomical Society welcomes new members Bob Roseman, Shawn Sidwell, Deepak Jain, Alka Jain, Puneek Gupta, and Larry Fajkus. It's a great club and this is an especially busy season with plenty of activities to choose from.

Telescope loaner program

Bram Weisman, telescope committee chair, reviewed the telescopes available for loan. If you have been a member for two months, you are eligible to check out a scope. He also announced that he will be rotating off as telescope committee chair at the end of this year and invites all interested members to apply.

AL observing club awards

Master Observer Amelia Goldberg presented a certificate and pin to Brian Cudnik for completing the Variable Star Club observation program. This makes Brian's 10th award, thus conferring on him the title Master Observer. This is the fifth such award for a member of the Houston Astronomical Society. Rene Gedaly, who has no astronomical league awards (yet), presented Amelia Goldberg a certificate and pin for completing the Globular Club, her 11th observing club award. Amelia is currently working on the Herschel II, having already completed the first 400 Herschel objects, and is also working on the Flat Galaxy Club. Congratulations to both these hard core observers!

Observatory report

Bob Rogers, observatory committee chair, presented his observatory site report and reminds members to send donations to HAS at PO Box 20332, Houston, TX 77225-0332. Please put "observatory donation" in the notes field of your check. He also announced the 2010 Astronomy Day website, <http://www.astronomyday.info/>.

All Clubs Picnic and Star Party, All Clubs Meeting, 2010 Astronomy Day

Mike Edstrom announced that Saturday October 9th is our Annual All Clubs Picnic and Star Party at the Columbus dark site. The gate will

open at 3 p.m. with Bar-B-Queed Brisket, coleslaw, baked beans, desert, iced tea and all the condiments provided; there is no charge for the food at the picnic. We will serve at 6:30 p.m., please rsvp to medst22531@msn.com by Thursday October 7th so we have a count for food. Please bring your lawn chair and appetite. We will have two light windows the first at 12 midnight and the second at 2 a.m.

Also, the upcoming All Clubs Meeting is at 7 p.m., October 15th at Houston Community College, 3100 Main. The speaker is Dr David Talent who will present "Modifications to the Space Surveillance Telescope on Haleakala in Maui and the Near Earth Asteroid Tracking Camera (NEAT)." Astronomy day follows on October 16th at the George Observatory. For details see <http://www.astronomyday.info/>.

See your name in print. Write for the GuideStar

Want to write a column or an article for the GuideStar? Deadlines are the 15th of the month for the following month's issue. Send to editor Bill Pellerin at billpellerin@sbcglobal.net.

Comet report

Justin McCollum, Professor Comet and novice chair, gave his comet report on late summer comets. See the Comet Corner on the HAS website at <http://www.astronomyhouston.org/> for timely updates.

(Continued on page 12)

(Continued from page 11)

Help Wanted: HAS treasurer, telescope committee chair

Rene Gedaly reminded everyone that it is time to nominate people to run the club for 2011. The society needs a treasurer to replace Allen Grissom who reluctantly must rotate off at the end of this year due to work commitments. We also need someone to head up the telescope committee loaner program to fill in for Bram Weisman, who has served admirably these past five years. The bylaws allow the loaner telescope program to be managed by co-chairs and multiple committee members, so grab your friends. Also, there is at least one other director position being vacated, and all positions are open to election, vacated or not. If you are interested in becoming an officer, board member, committee chair or committee member, contact Ken Miller, Allen Grissom, Bram Weisman or any board member to nominate yourself or someone else. You can review the committee responsibilities in the bylaws here:

<http://spacibm.rice.edu/~has/5ClubBusiness/ByLaws.html>. Elections are this November.

Livestream committee members needed

Warren Murdoch invited members to help record the novice and general membership meetings that are posted on www.livestream.com/HAS2010. Due to work commitments both he and Siobhan Saragusa will occasionally run late for meetings so backup committee members are needed. Here's your chance to get involved with new media, folks!

September speaker, Dr. Renee James

Brian Cudnik introduced Renee James, an associate professor of physics at Sam Houston State University. Dr. James has been named a "Gold Star" in the NASA-sponsored Top Stars contest. James was recognized for "The Life and Death of Bob (a.k.a NGC 6397) in an Introductory College-Level Astronomy Course." The course uses a slide show and supplemental images to chronicle the use of Hubble images through a semester-long course. Professor James' talk culled highlights from her new book, *Seven Wonders of the Universe That You Probably Took for Granted*. The book will be released later this year.

Next board meeting 9/28/2010

The next board meeting is Tuesday, September 28, 2010 at the Houston Chronicle building in downtown Houston. Join us! Contact John Missavage, our host, or Ken Miller for info about where to park and how to get into the building.

Board Motion on support of ADay and All Clubs

Call for vote: Ken Miller called for a board vote by email to determine how to allocate funds to support the 2010 All Clubs Meeting and Astronomy Day.

Discussion: This year Astronomy Day and the Houston area All Clubs Meeting were separated into two distinct events. Consequently, the board needed to re-consider how HAS should allocate funds since the budget stipulated support for the historically combined event and not for two. Also, the Astronomy Day coordinator informed the HAS president that the AD committee had sufficient funds and therefore HAS support was not required.

So Moved on 8/31/2010: HAS will contribute the entirety of its budgeted \$200 to support the 2010 All Clubs Meeting.

Why Do Giant Stars Lose Mass the Way They Do?

By C.C. Petersen

Stars lose mass throughout their lives. In the case of the Sun, it's losing mass right now through the action of the solar wind — which blows material away from our star and out through the solar system.

As they get older, stars shed more mass as part of the “normal” process of stellar aging. For large stars, the mass loss is tremendous. Yet, think about it — a huge, massive star is going to have a pretty strong gravitational self-preservation instinct (so to speak). Its gravitational pull should normally prevent huge amounts of mass loss.

However, in the case of Betelgeuse (in the constellation Orion), which is a red supergiant and approaching the end of its life, the mass loss is more than scientists expected. This big old star is losing the equivalent of one Earth mass (about 6×10^{24} kilograms) each year. That's a huge amount and astronomers have been puzzling over reasons why this is happening. The best evidence is inside the star, of course, and hidden



An artist's impression of Betelgeuse as it loses mass over time. Courtesy ESO

inside the clouds of material that Betelgeuse has already blown away. However, seeing detail from this distance (640 light-years away) and against the glaringly bright light coming from the star is a tough proposition. It requires high resolution and specialized instruments.

A team of astronomers led by Keiichi Ohnaka at the Max Planck Institute for Radio Astronomy (MPIfR) got around this by using the Very Large Telescope Interferometer in Chile to get a high-resolution view of the scene. This let them see the motions of gas in Betelgeuse's atmosphere. This is the first time such motions have been seen in a star other than the Sun, and allows them to chart the motions across the star's surface. The motions show that gas bubbles in Betelgeuse's atmosphere are large — at least one is the size of the orbit of Mars, which is about the same size as the star itself! They are moving up and down quite actively — the Mar-orbit-sized one is plowing along at at about 40,000 kilometers per hour).

It's not clear where these bubbles originate, but it does seem that they are part of the mass-loss mystery at Betelgeuse. The observations suggest that these colossal bubbles can expel the material from the surface of the star out to space. It's not a nice clean stellar wind kind of mass loss, like we see at other stars. This is more violent and spasmodic and may be typical of the way that such a star will behave as it approaches the very end of its stellar existence.

Betelgeuse will explode as a violent supernova sometime in the next hundred thousand years. The view from Earth will be spectacular, and the dying star's last outburst will be visible even in the daytime hours. Astronomers have been watching this star for years, charting its path to stardom. Every bit of information they glean helps us understand the mechanics of star death even better.

For more information about the VLT measurements of Betelgeuse's mass loss, check out the Max Planck web page...

<http://www.mpifr-bonn.mpg.de/public/pr/pr-betelgeuse-en.html>

...about the observations. It has links to the original paper and an image of the VLT observatory.

This content distributed by the AAVSO Writer's Bureau

See the blog:

The Spacewriter's Ramblings at:
<http://thespacewriter.com>

Special Volunteer Opportunity—October 8

..at the Camp for All, near Brenham

The astronomy clubs in the Houston area are working together to provide outreach opportunities for our members. All of those opportunities represent a great time to introduce the public to the night sky.

We now have a new, and an outstanding opportunity. The Houston Candlelighters' mission is "to provide emotional, educational, and practical **support to children with cancer and their families**". On October 8, 2010 (a Friday), Houston area astronomers are invited to bring their telescopes and educational materials to the Camp for All to show the sky to these children, their parents, and the camp counselors.

The date for this event is very close to the new moon, these are dark country skies, so there'll be a lot to see and to show the participants. When you get an email on the list server asking you to participate, please say 'yes'. It'll be a great experience for you and for the **kids from MD Anderson Cancer Center and Texas Children's Hospital**.

Check out the program at www.candle.org. Check out the site at www.campforall.org

Coordinator: Bill Pellerin, HAS — billpellerin@sbcglobal.net

Please let me know if you can make it. We have only three telescopes for this event (as of 9/26) and we need more.

Eldorado Star Party

Registration Now Open

You can save by registering early for the 8th annual Eldorado Star Party (ESP), November 1-7th. Just for amateur astronomers who want dark skies and a protected environment, the 7,100 acre X-Bar Ranch is 20 miles WNW of Sonora, Texas. Sponsored by the Austin and San Antonio astronomy clubs, and assisted by volunteers throughout Texas, this event brings dark skies closer to the amateur astronomer... ESP's central location is within easy driving distance of many Texas cities... 3 hours west of San Antonio, and 5 1/2 to 6 hours from Dallas and Houston.

The site is eight miles north of Interstate-10, and has a convenient all-weather road and nearby light-shielded parking area at the observing fields. The main observing area includes power for telescopes and equipment, and is organized so that you may drive on-off from the nearby parking area at night without impacting the observers on the fields.

The same darkout rules that you see at TSP will be in effect here!

Here's some of what you will find at this year's ESP:

- Convenient ONLINE registration and payment via check or credit card!
- Extra days of observing! While our regular activities start on Wednesday as usual, you can arrive Monday/Tuesday to get your spot and set up early to enjoy more of our clear dark skies!
- Other - camping (and hot water showers), special rates at nearby motels, catered meals, star party activities including special observing programs, afternoon speakers, door-prizes, and swap meet. And don't miss the nearby Caverns of Sonora!
- Want to learn more? There's lots of information on the ESP web site!
- Register online NOW at: <http://www.eldoradostarparty.org>
- Pre-register soon, to save money before our rates go up!

Observatory Corner

By Bob Rogers, Observatory Chairman

Hello everyone.

We had a great turn out for the HAS All Clubs Star Party at the Observing site. There were around 60 in attendance for food and observing. There was a chance of rain which did not develop. Instead, we had clear skies for the evening. Clayton Jeter hosted a group of astronomers from the La Grange area and they spent most of their time in the Observatory and roaming the field catching photons from other telescopes. It was great to have them come visit us and see what we are all about. The Observatory Committee collected a little over \$200.00 from the sales of food. Thank you everyone for your help on that. I also want to thank Brian Cudnik (in the Observatory), Lee Gibson, Dana Lindstrom, Ed Fraini, Mike Edstrom and Don Selle for everyone's help on putting on this event. I hope to see everyone at the October 9th HAS Picnic. Rumor has it that we will have brisket, like last year.

For those of you that weren't at the August HAS membership meeting, I presented a short PowerPoint Presentation to the membership about the need for donations. Since taking over the Observatory Committee in 2007, I have not asked for donations but have received donations from some members every year. Lately though, I have had site expenses that have somewhat depleted the Observatory bank account below the minimum amount of dollars that I need to maintain for emergencies such as well repair or septic system repair. Some of the expenses have been for the riding mower used to mow the grass, the Corby system that is used in the Observatory, the completion of the tractor shed and the removal of the 5 dead trees in critical areas at the site. Still needed are donations to replace the North fence and to buy a new zero turn riding mower that can handle the terrain. We have started charging \$5.00 a plate for food at the All-Clubs events (includes a hamburger, hot dog, chips, ice tea and a dessert). We will NOT be charging for the annual HAS Picnic food.

If you can donate, it would be appreciated and all donations are Tax deductible.

Donations can be made to:

HAS
PO Box 20332
Houston, TX 77225-0332

In the note section, please put – "Observatory donation"

Remember that we are the only club that has an observing site that everyone can go to observe away from city lights. It cost money every year to keep the site maintained for your use and pleasure. So far we have around \$450.00 donated towards our



goal.

I do 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 coded for the Houston Astronomical Society. Our number is #6618. The Society gets 1% 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

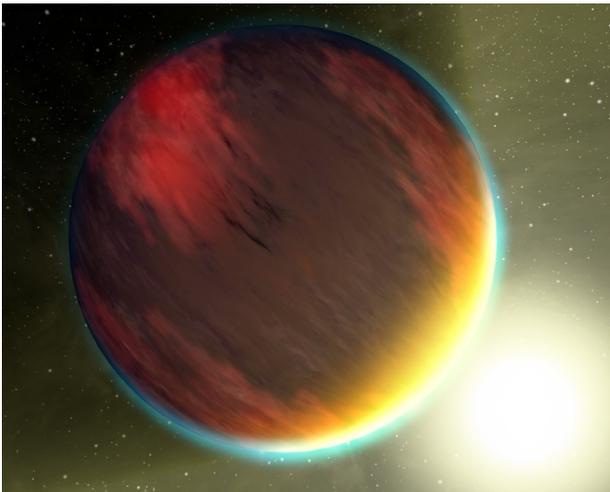
The Hunt is On!

By Carolyn Brinkworth

NASA Space Place

The world of astronomy was given new direction on August 13, 2010, with the publication of the Astro2010 Decadal Survey. Astro2010 is the latest in a series of surveys produced every 10 years by the National Research Council (NRC) of the National Academy of Sciences. This council is a team of senior astronomers who recommend priorities for the most important topics and missions for the next decade.

Up near the top of their list this decade is the search for Earth-like planets around other stars—called “extrasolar planets” or “exoplanets”—which has become one of the hottest topics in astronomy.



Artist's rendering of hot gas planet HD209458b. Both the Hubble and Spitzer Space Telescopes have detected carbon dioxide, methane, and water vapor—in other words, the basic chemistry for life—in the atmosphere of this planet, although since it is a hot ball of gas, it would be unlikely to harbor life.

The first planet to be found orbiting a star like our Sun was discovered in 1995. The planet, called “51 Peg b,” is a “Hot Jupiter.” It is about 160 times the mass of Earth and orbits so close to its parent star that its gaseous “surface” is

seared by its blazing sun. With no solid surface, and temperatures of about 1000 degrees Celsius (1700 Fahrenheit), there was no chance of finding life on this distant world. Since that discovery, astronomers have been on the hunt for smaller and more Earth-like planets, and today we know of around 470 extrasolar planets, ranging from about 4 times to 8000 times the mass of Earth.

This explosion in extrasolar planet discoveries is only set to get bigger, with a NASA mission called Kepler that was launched last year. After staring at a single small patch of sky for 43 days, Kepler has detected the definite signatures of seven new exoplanets, plus 706 “planetary candidates” that are unconfirmed and in need of further investigation. Kepler is likely to revolutionize our understanding of Earth's place in the Universe.

We don't yet have the technology to search for life on exoplanets. However, the infrared Spitzer Space Telescope has detected molecules that are the basic building blocks of life in two exoplanet atmospheres. Most extrasolar planets appear unsuitable for supporting life, but at least two lie within the “habitable zone” of their stars, where conditions are theoretically right for life to gain a foothold.

We are still a long way from detecting life on other worlds, but in the last 20 years, the number of known planets in our Universe has gone from the 8 in our own Solar System to almost 500. It's clear to everyone, including the Astro2010 decadal survey team, that the hunt for exoplanets is only just beginning, and the search for life is finally underway in earnest.

Explore Spitzer's latest findings at <http://www.spitzer.caltech.edu>. Kids can dream about finding other Earths as they read “Lucy's Planet Hunt” at <http://spaceplace.nasa.gov/en/kids/storybooks/#lucy>.

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

Shallow Sky Object of the Month

Eta Peg—a G Star

By Bill Pellerin, GuideStar Editor

Object: Eta Peg

Class: Star

Magnitude: 3.0

R.A.: 22h 43m 00s

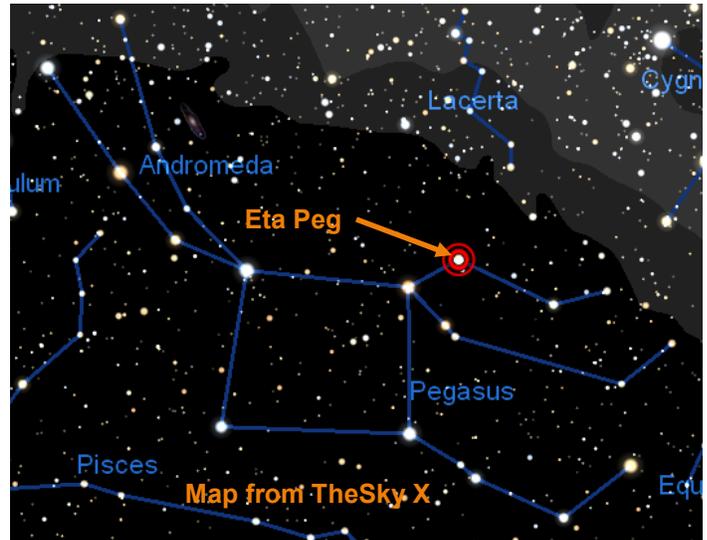
Dec: 30 degrees 13m 17s

Constellation: Pegasus

Size/Spectral: G

Distance: 215 ly

Optics needed: unaided eye



Why this object is interesting

For the purposes of taking you on a tour of stars of various colors, we have made our way to the G class stars. The G class stars are said to be 'yellow', but remember that star colors are usually subtle and discerning color in stars can be challenging. Remember that star colors go from red to blue with the designations OBAFGKM. See previous articles in this series for more information.

By mid October, Eta Peg is well placed for viewing. By 10:30 p.m. the star is almost directly overhead and should be easy to see, even from skies that are not pristine.

Eta Peg has a companion F class star, but this star should not confuse you — it shines at magnitude 9 and is about 93 arc seconds (1.5 arc minutes) away. If you have enough aperture to get enough light from the secondary star you may see some color contrast between it and the primary star. Let me know if you do.

The common name for Eta Peg is Matar which means "lucky star of rain".

Other G stars:

The Sun — **Note: do not look at the Sun without using a proper solar filter.**

The Sun, our home star looks more yellow to us than it is. The reason for this is the same as the reason that the sky is blue. Light from the Sun arrives with all colors, but blue light gets scattered in the atmosphere creating the blue sky and subtracting some blue from the Sun itself. This makes the Sun look less blue/white

than it actually is. If you saw it from space you'd get a better sense of its actual color.

Capella — (in Auriga, the Charioteer) This one is a bit of a cheat. Capella is a nice bright (0.08 magnitude) G star that rises about 8:30 p.m. in October and will be well placed for viewing a few hours later.

The cheat is that this series of articles intends to direct you to main-sequence stars and there is reason to believe that Capella is beginning to move off the main sequence on its way to becoming a red giant. So, while it's true that when you look at Capella now, you're seeing a G star, it's also believed that Capella is no longer on the main sequence.

Houston Astronomical Society

P.O. Box 20332

Houston, TX 77225-0332

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.

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.

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713-880-8061; FAX: 713-880-8061;

Email: BillPellerin@sbcglobal.net

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

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, October 1

7:00 Novice & Site Orientation

8:00 General Meeting

University of Houston

Directions to meeting:

From I-45 going south (from downtown)

- exit at Cullen Boulevard
- turn right on Cullen
- turn right into the parking lot (by the stadium)
- 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 into the parking lot (by the stadium)
- Science and Research is across the street (2nd building back)

Parking:

There is Free Parking, **BUT DO NOT PARK IN ANY RESERVED PARKING SPACES AT ANY TIME.**
U of H parking enforcement will ticket your vehicle.