



**August, 1999**

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*At the August 6 meeting...*

***Supernovae and  
Gamma-Ray Bursts:  
Cosmic Mysteries Intertwined***

***Dr. Craig Wheeler of UT Austin***

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***Houston Astronomical Society***

***GuideStar***

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**Starline - 281-568-9340**

Houston Astronomical Society presents *Starline* -- a recorded message of Society events and astronomical happenings. This service is updated regularly, so call often to keep up-to-date on Society functions, new comets and more.

**H.A.S. Web Page: <http://spacsun.rice.edu/~has>**

**Schedule Changes & Up-To-Date Information**

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

**Observatory Site Telephone: 409-732-8967**



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***Call the Starline, 281-568-9340 for updates and changes***

## ***Welcome to New Members!***

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The Houston Astronomical Society encourages you to join our group of active amateur astronomers and take advantage of the benefits of membership. As a member you'll have access to the club observing site near Columbus, Texas. (You're required to participate in a site orientation meeting before you get the gate lock combination.) The site has concrete pads for setting up your telescope, restroom and bunkhouse facilities, and areas set aside for camping.

## **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 Flanagan .....	713-699-8819
Comets .....	Kenneth Drake .....	281-367-1592
Lunar & Planetary .....	John Blubaugh .....	713-921-4275
Occultations & Grazes ...	Wayne Hutchison .....	713-827-0828

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## The President's Message



This month I would like to focus on the resources (not money) of the Houston Astronomical Society.

First of all, we are a society of around 400 members dedicated to the promotion of amateur astronomy. We also provide educational programs and group star parties for the general public, thanks to our members Marg Nunez and Bill Leach. Among our membership there is a wealth

of expertise in virtually every aspect of astronomy, providing our members, if they are so inclined, a tremendous “data base” of knowledge.

At our 18 acre site, 12 miles southwest of Columbus, Tx., we have an observatory with a 14-inch Schmidt-Cassegrain telescope, and two 12 1/2- inch Newtonian reflectors, one at F-5 and the other at F-7. We also have a separate building with two 12 1/2 inch Dobsonians. In addition we have numerous amenities to support observing sessions, including a climate controlled warm-up room as part of the observatory, a bunkhouse for sleeping, a fine restroom for a remote area, barbecue facilities, electrical hook-ups, and of course our 38 individual observing pads for member's telescopes (with electricity). Our Observatory Committee Chairman, Mike Dye, and his committee do a great job of maintaining the site.

We also have our monthly meetings at the University of Houston, which serve as both a forum for interesting astronomically related presentations and a social outlet for our members to exchange friendship and information. Scott Mitchell and the Program Committee have done a fine job in providing good presentations this year. Marg Nunez and Bill Leach provide new members with a warm “welcome”.

We also have novice meetings just prior to our general membership meeting, thanks to Jose Sancho and Susan Spore, and a site orientation

*Continued on page 7...*

# *Houston Astronomical Society*

*Meeting Notice  
For Friday, August 6, 1999*

## *Dr. Craig Wheeler*

*UT - Austin*

### *Supernovae and Gamma Ray Bursts*

**Supernova** - A catastrophic stellar explosion in which so much energy is released that the supernova alone can outshine an entire galaxy. One type can occur as one member of a binary system loses mass.

**Gamma ray burster** - A source of a transient burst of gamma radiation. These possibly are neutron stars in binary systems where a thermonuclear explosion occurs in the material between the stars.

Definitions from *A Concise Dictionary of Astronomy* by  
Jacqueline Mitton

#### **Schedule of meeting activities:**

Novice meeting: ..... 7:00 p.m.

Jose Sancho and Susan Spore began a new year of novice programs in January. This year the Novice committee will work with you to complete the Messier list. Please bring your Messier (and any other) observation records with you to the June meeting.

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

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

See the inside back cover for more information.

# August/Sept Calendar:



<i>Date</i>	<i>Time</i>	<i>Event</i>
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## August

4	3:35 a.m.	Lunar occultation of Xi <sup>2</sup> Ceti (m4.3), see July GS, p. 17
	12:27 p.m.	Moon at Third Quarter
6	3:09 a.m.	Lunar occultation of Gamma Tauri (m3.6), see July GS, p. 17
		HAS Club Meeting
	7:00 p.m.	Novice Presentation - U of H
	8:00 p.m.	General Membership Meeting U of H
7		Prime Night-Columbus
		Uranus at opposition
10	8:55 p.m.	New Moon
11		Last Total Solar Eclipse of Millennium - visible from Europe
12	evening	Perseid meteors peak—watch through morning of 13th
17	7:30 p.m.	Advanced SIG Mtg. Rice Univ., contact Bill Flanagan, 713-699-8819
18	3:35 a.m.	Lunar occultation of Gamma Librae (m4.0), see July GS, p. 17-18
	8:47 p.m.	First Quarter Moon
26	6:49 p.m.	Full Moon
28		Members Observatory Night-Columbus

## September

2	6:18 p.m.	Moon at Third Quarter
3		HAS Club Meeting
	7:00 p.m.	Novice Presentation - U of H
	8:00 p.m.	General Membership Meeting U of H
4		Prime Night-Columbus
9	8:55 p.m.	New Moon
11		Members Observatory Night-Columbus
14	7:30 p.m.	Advanced SIG Mtg. Rice Univ., contact Bill Flanagan, 713-699-8819
17	3:06 p.m.	First Quarter Moon
23	6:30 a.m.	Autumnal Equinox - sun enters southern celestial hemisphere, fall begins.
25	5:52 a.m.	Full Moon

Send calendar events to [JBlubaugh@aol.com](mailto:JBlubaugh@aol.com) or call 713-921-4275.

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## ***President's Message...*** from page 4

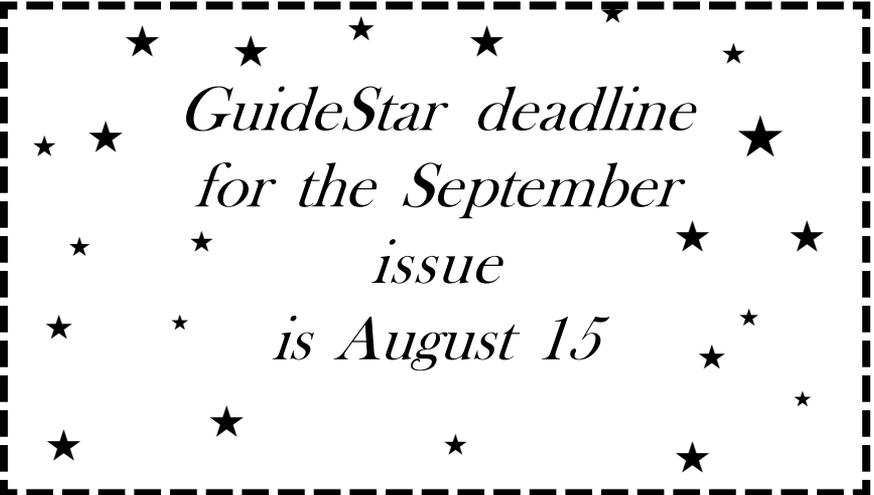
meeting, necessary for new members who want to use the observing site.

In addition we publish this newsletter, *GuideStar*, on a monthly basis, with kudos to our editor, Bill Pellerin. We have a website, thanks to Steve Goldberg, a telescope loaner program headed up by Clayton Jeter, and Kenneth Drake provides field trips and other astronomical information to the society. Last, but not least, Matt Delevoryas and the Starline Committee provides information from the International Astronomical Union to our members through a telephone information service, "Starline", and in *GuideStar*.

These are some, but not all of the activities/services we provide to our members, all for the ridiculously low fee of \$33 a year. This month we will be entertained by Dr. Craig Wheeler of the University of Texas, who will speak on supernovae and gamma-ray bursts.

Clear skies and le croissant lunaire

*Don Pearce*



*GuideStar deadline  
for the September  
issue  
is August 15*

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# ***Double Play !***

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*by Clayton Jeter, Loaner Telescope Chair*

Since I last wrote, the telescope loaner program has grown in its inventory, I'm happy to announce.

While camping at Mountain Davis State Park during TSP-99', I was delighted to hear one of our own club members, Sim Picheloup, explain that he wanted to build and donate our society one of his beautiful binocular chairs for the telescope loaner program. I couldn't believe my ears! I've used one of his chairs at our observatory in Columbus. They are a delight to use. Thanks to Sim, we are all in for a real treat observing the heavens in sheer comfort. The chair was donated at our July meeting.

But wait....theres more! About mid June, via E-mail, I received a wonderful letter from Mark McCuen. Remember his name? Probably not. He attended only one of our meetings during the mid 1970's. In his letter, Mark wrote that he had found our web site .... and my name as the loaner telescope chairperson. He wanted to know if our club could use his telescope, a 1973 Criterion RV-6 reflector on a German mount w/motor drive. Needless to say, I couldn't get my hands on this instrument fast enough. It is in beautiful condition other than its primary mirror needs recoating in the future. I'll be dusting it off and making it ready for our inventory in August.

Thanks Sim and Mark for your big hearts. This was such a wonderful gesture. I want you guys to know that these helpful observing tools will be used in our club for many years to come.

Hope to see you all at our next meeting.... you to Mark!!!!

***cloudless nights.... always, Clayton***

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# ***Measuring the Hubble Constant***

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*by Bill Leach*

The presentation for the monthly Advanced Special Interest Group meeting in August will be by Bill Leach, on "Measuring the Hubble Constant: A Confluence of Observation and Theory." Measurements that can be made with a backyard telescope can be used to determine the age of the universe. This audio/visual presentation will include a cosmological stroll of the internet. All society members are encouraged to attend. Although this topic is rather sophisticated, it should appeal to a wide range of interests. The meeting is on Tuesday, August 17, 1999 at 7:30 PM in Room 106 of the Space Science building at Rice University. The Space Science building is along the long, south side of the parking lot accessible from Rice entrance 13, Rice Boulevard at Kent. If you wish any other information on the advanced SIG, contact Bill Leach, chairman, at 713-863-8459 or [astrobil@flash.net](mailto:astrobil@flash.net).

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## ***Want Ads***

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18" Dobsonian by Sky Designs, aluminum truss tubes, large removable bicycle wheels, includes enhanced multi-coatings on primary and secondary, hardware installed for NGC computer (available for additional price), JMI 2" focuser, and Telrad. Only 11/2 years old and seldom used - superlative condition. Absolutely outstanding hand figured optics (certification available from Sky Designs). Located in Dallas, Texas. \$3500. Call Murray at (214) 880-1808 (day), (214) 358-6088 (evenings before 10:00), or email [murrayc@buz.net](mailto:murrayc@buz.net).

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# ***HB 916 is LAW!!!***

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*Dear Supporter of Starry Skies and Responsible Lighting -*

*HB 916 was signed by Texas Gov. Bush on June 19th, 1999!*

*Below is the history of what happened to it this session.*

*Thank you so much for your efforts and for your support.*

*Together, with so many others, we made a difference to our's and our children's future.*

*I'm in awe of the accomplishment.*

*Take care. Thanks Again - Sincerely - **Ruthie S. Premack***

Bill: HB 916

Legislative Session: 76(R)

## **History.....**

Filed 01/25/1999

Read first time 02/09/1999

Referred to State Affairs 02/09/1999

Scheduled for public hearing on . . . . 03/29/1999

Considered in public hearing 03/29/1999

Testimony taken in committee 03/29/1999

Left pending in committee 03/29/1999

Considered in public hearing 04/06/1999

Committee substitute considered in committee 04/06/1999

Testimony taken in committee 04/06/1999

Reported favorably as substituted 04/06/1999

Committee report filed with Chief Clerk 04/12/1999

Committee report printed and distributed 12:31PM 04/13/1999

Committee report sent to Calendars 04/14/1999

Considered in Calendars 04/23/1999

Considered in Calendars 05/10/1999

Placed on General State Calendar 05/12/1999

Read 2nd time 05/12/1999

Amended 1-Gallego 05/12/1999

*Continued...*

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***HB 916... from previous page***

Passed to engrossment as amended 05/12/1999  
Read 3rd time 05/13/1999  
Passed 05/13/1999  
Reported engrossed 01:58PM 05/13/1999  
Received from the House 05/13/1999  
Read first time 05/14/1999  
Referred to State Affairs 05/14/1999  
Posting rule suspended 05/14/1999  
Considered in public hearing 05/14/1999  
Reported favorably w/o amendments 05/14/1999  
Recommended for local & uncontested calendar 05/14/1999  
Committee report printed and distributed 02:55PM 05/17/1999  
Placed on local & uncontested calendar 05/26/1999  
Placed on intent calendar 05/26/1999  
Laid before the Senate 05/26/1999  
Read 2nd time & passed to 3rd reading 05/26/1999  
Rules suspended 05/26/1999  
Record vote 05/26/1999  
Read 3rd time 05/26/1999  
Passed 05/26/1999  
Record vote 05/26/1999  
Senate passage reported 05/26/1999  
Reported enrolled 10:20AM 05/27/1999  
Signed in the House 05/27/1999  
Signed in the Senate 05/27/1999  
Sent to the Governor 05/28/1999  
Signed by the Governor 06/19/1999  
**Effective on 9/1/99 06/19/1999**

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# ***Dr. Lawrence Pinsky....***

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*By Bill Pellerin, GuideStar Editor*

At the July meeting of the HAS, we were fortunate to have the opportunity to hear from Dr. Lawrence Pinsky. Dr. Pinsky is an advisor to the H.A.S. and a University of Houston lecturer in Astronomy. He is very skilled at presenting his material to an audience, and his presentation was very well received.



Dr. Pinsky

Dr. Pinsky commented at the beginning of his presentation that he normally presents to college students who may (or may not) be really interested, and that he was pleased to have the opportunity to present to a group that had a genuine interest in what he had to say.

He discussed the 'dark matter' problem. The lecture began by reviewing Kepler's laws and talking about how we know that there's a problem. As it turns out, the motions of stars (the only things we can see) in galaxies tells us that the galaxy contains substantially more mass than the mass associated with the stars we can see. In fact, what we can see (stars and glowing nebulae) constitutes only about 10% of the mass that is required to make the galaxy behave as it does.

He then discussed several 'solutions' to the missing mass problem, including 'machos' and 'wimps' and told us about the problems with these 'solutions'. He was able to show us a map of the mass distribution around a galaxy cluster. The map shows a very large amount of mass near the center of a galaxy, as you'd expect, but also shows mass among the galaxies. The resolution of this map is rather coarse, so it's not possible to determine what the distribution of the mass is with any certainty.

In the end, the problem remains to be solved and is the subject of intense investigation.

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# Special "Help" Volunteers

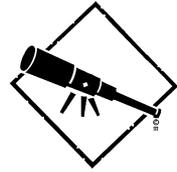
Any member who wants specific information on a subject listed below may call the individual listed. If you have a moderate knowledge of a special subject and would be happy to have others ask you about that subject, let the editor know and your subject, name and phone will be listed in *GuideStar* in the future. Note that we have listed a few possible areas where you might volunteer, but, of course, you are not limited to these. You can also have a specialty which is a sub-group of another. Note that the number of names for any subject is not limited to only one person. Also see the "Ad Hoc Committee Chairpersons" on the inside front cover and the "Special Interest Groups Listing article.

<u>Subject</u>	<u>Name</u>	<u>Phone</u>
Asteroids .....	Barbara Wilson .....	281-933-1289
Astrometry .....	Richard Nugent .....	713-910-5945
Astrophotography .....	Steve Goldberg .....	713-721-5077
Beginning in Astronomy .....	Peggy Gilchrist .....	281-558-1190
	Amelia Goldberg .....	713-721-5077
Comets .....	Kenneth Drake .....	281-367-1592
	Don Pearce .....	713-432-0734
Computers .....	Matt Delevoryas .....	713-795-0808
	Leland Dolan .....	713-529-0403
	Ricardo Palmeira .....	713-669-1409
Cosmology .....	Ricardo Palmeira .....	713-669-1409
Deep Sky .....	Larry Mitchell .....	281-448-8700
	Barbara Wilson .....	281-933-1289
Double Stars .....	John Blubaugh .....	713-921-4275
Drawing (Sketching) .....	Scott Mitchell .....	713-461-3020
Herschel Objects .....	Larry Mitchell .....	281-448-8700
History, Astro'y - General .....	Leland Dolan .....	713-529-0403
	Ricardo Palmeira .....	713-669-1409
History, Astro'y - Amateurs .....	Tom Williams .....	713-526-2868
Mathematics, Astronomical .....	Richard Nugent .....	713-910-5945
Messier Objects .....	Novice Committee (see inside front cover)	
Photometry .....	Tom Arnold .....	281-495-0142
Radio Telescopes .....	John Hiatt .....	713-464-4010
Satellites, Artificial .....	<open>	
Solar Observing .....	Larry Mitchell .....	281-448-8700
Spectroscopy .....	Tom Arnold .....	281-495-0142
Thin Crescent Moons .....	Don Pearce .....	713-432-0734
Variable Stars .....	Barbara Wilson .....	281-933-1289
	Tom Williams .....	713-526-2868
Video .....	Larry Mitchell .....	281-448-8700

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# *Observatory Corner*

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*By Michael B. Dye Observatory Chairman*



The Houston Astronomical Society has two Observatory Site events scheduled each month. The First event, which is held on the best observing Saturday night of each month is “Prime Night”. This is when the majority of the members (who go to the Observatory Site) come out and set up their telescopes to do some serious observing. This is a fun activity in that one can walk around and chat with quite a few members and have a good time observing and learning from others.

The other scheduled event is the “Members Observing Night”. This activity used to be called “Open House”, but because some non-members were becoming confused as to what it meant we changed the name to “Members Observatory Night”. It is something like “Members Night” out at the George Observatory at Brazos Bend State Park. This event is scheduled on the second best observing Saturday night at the Observatory Site. The Observatory Committee is responsible for setting up these dates at the beginning of the year and then for insuring that the “Members Observing Night” has at least three Telescope Operators to operate the telescopes in the Observatory. The Observatory Committee has a list of about 55 names of members who have taken the Observatory Training course in order to use the Observatory Telescopes. In return for the privilege of being able to use the Observatory Telescopes, the Observatory Committee selects (from an alphabetical list) eight (8) members each month to 1) help with the Site Maintenance (like vegetation control) (5 members) and 2) operate the Observatory Telescopes during “Members Observatory Night” (3 members).

This month I am going to push attendance at the Members Observatory Night which is held at the Observatory Site once each month. The last two months have had average to fair viewing at the Observatory Site for Members Night but a definite lack of any viewing members or even guests of members. The Observatory Committee conscripts three Observatory Qualified HAS members each month to operate the three

*Continued...*

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## ***Observatory Corner... from previous page***

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Observatory Telescopes for Members Observatory Night. The activity is held from sundown to Midnight on the night listed at the end of this article. If you have had Observatory Site Training and have not been to the Observatory Site and would like to observe through the Observatory Telescopes, please call the Field Trip and Observing Chairman and see if he is arranging a caravan to the Observatory Site on Members Observatory Night. If you don't want to deal with having to light protect your vehicle, you can park in the North Parking Area and walk in. This is only about 200 yards from the Parking Area to the Observatory. You can also wander around the Telescope Pads and talk to other Members who have set up telescopes. Do not bring a white flashlight.

If you already know how to use the Observatory Site, but don't want to haul your stuff out to the Observatory Site, just drive out and observe through the objects that Observatory Telescope operators have selected. They (the Operators) are usually very acceptable to suggestions as to which object to observe (provided it is in the sky that night). Again I suggest using the North Parking Area, so that you don't have to bother with the white lights.

Do not use the weather in Houston as a guide to the weather at the Observatory Site. The sky can be very cloudy in Houston while they are clear to partly cloudy at the Observatory Site. Tune to the Weather Channel to check cloud formations or call the Observatory Site at 407-732-8967. The phone is a public phone attached to the east wall of the Observatory, which is accessible to everyone at the Observatory Site. This phone also has a VERY loud ringer attached to it that allows an incoming phone call to be heard almost anywhere on the Observatory Site. I personally have been standing next to the phone when it rang and had to check to see if my heart had started beating again before I answered the phone.

I would like to recommend to all members to go use the Observatory Site anytime they want as the Observatory Site is the major benefit (in my biased opinion) of membership in the Houston Astronomical Society. Just remember to take the Site Orientation Course given each month on

*Continued...*

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## ***Observatory Corner... from previous page***

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the same date as the General Membership meeting. The class is from 7:00 PM to 8:00 PM in room 122 (I think). Either myself or Robert Rogers gives the course. The only requirement to take the course is to be a paid member of the Houston Astronomical Society. We supply all teaching materials, however it would be nice if members brought their own writing implements. This course is required in order to get the directions to the Observatory Site and the combination to the Front Gate.

I am running an informal poll. If you have an opinion on whether the Society should provide some sort of computers for controlling the Observatory Telescopes and maybe for CCD processing. Also any other ideas in the same category. Please contact me at [mbdye@aol.com](mailto:mbdye@aol.com) or 281-498-1703.

If you have a Randalls card, 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 roles 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 what to do.

Please buy HAS Logo merchandise and help me get my den back. We have very nice HAS Logo thermal mugs, T-shirts and other nifty stuff (including some very nice pictures). All at very reasonable prices.

Please fill out the appropriate log form when you use the site. Remember we use these forms as attendance records.

**Prime Night for August is the 7th.**

**Members Observatory Night for August is the 14th.**

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## *Other Meetings...*

**Brazosport Astronomy Society** meets at 7:00 p.m. on the 2nd Thursday of each month in the Planetarium of the fine Arts Center at Brazosport College. Call Steve Lamb for program details (409) 297-3984

**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://rampages.onramp.net/~binder/>

**Johnson Space Center Astronomical Society** meets in the the Lunar and Planetary Institute on the 2nd Friday of each month. Web site: <http://www.ghgcorp.com/cbr/jscas.html>

**Northside Astronomical Society** meets at 8:00 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](mailto:bill.leach@nhmccd.edu).

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## *HAS Web Page*

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

The address is: <http://spacsun.rice.edu/~has>

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 [goldberg@sccsi.com](mailto:goldberg@sccsi.com). (You can click on my name on the HAS home page). Or, you can call me, Steve Goldberg (WebMaster), at 713-721-5077.

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# ***Observatory Duty Roster***

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by Michael B. Dye, *Observatory Chairman*

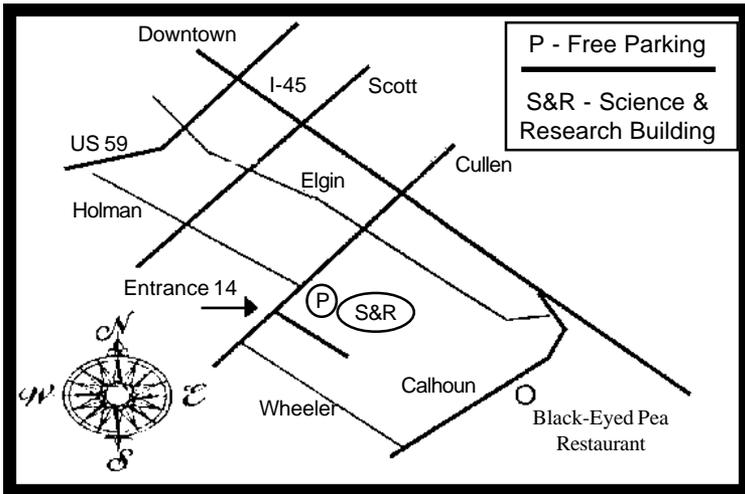
This is the duty list for August, September and October. Be sure to contact your supervisor for any information that you may need and the date and time to be at the site. You may change from site duty to open house or from open house to site duty by pre-arrangement with the Site Supervisor for that month. Changes between months require Observatory Chairman coordination.

**August supervisor ..... Dana Lambert ..... 281 933-4627**  
Leonard W. Raif ..... Site  
Glen L. Ray ..... Members Observatory Night 08-14-99  
Mike Renolds ..... Members Observatory Night 08-14-99  
Henry Schneider ..... Site  
Carl Sexton ..... Site  
Steve Simpson ..... Site  
Larry C. Wadle ..... Site  
Mark R. Watson ..... Members Observatory Night 08-14-99

**September supervisor ..... Howard Leverenz ..... 281 957-8667**  
Margaret Nunez ..... Site  
Buster Wilson ..... Members Observatory Night 09-11-99  
Barbara Wilson ..... Members Observatory Night 09-11-99  
Warren Wundt ..... Members Observatory Night 09-11-99  
W. Charles Barnes ..... Site  
Don Bates ..... Site  
John Blubaugh ..... Site  
Ron Carman ..... Site

**October supervisor ..... Logan Rimes ..... 713 681-5397**  
John Chauvin ..... Site  
Art Ciampi ..... Members Observatory Night 10-02-99  
Brian Cudnik ..... Site  
Mickey Davis ..... Members Observatory Night 10-02-99  
George M. Dolson ..... Members Observatory Night 10-02-99  
Kenneth Drake ..... Site  
Mark Egan ..... Site  
John D. Fennell ..... Site

Please remember that Site work can be done anytime and does not have to be done just before Members Observatory Night. Contact your Site Supervisor for details. Names are selected for Site Duty using the current Alphabetical listing for Observatory Key Holders. If any member knows of a conflict please call me before your name is listed.



### 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.

### Board of Directors Meeting

The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. in Room 106 of the Space Science Building at Rice University. Call StarLine for Board Meeting information. 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 sent via bulk rate mail to Regular, Student, and Honorary Members of H.A.S., selected individuals and recent visitors to the General Membership Meeting. Contributions to *GuideStar* by members are encouraged. Electronic submission is helpful. Submit the article in ASCII text, MS-Word (preferred), or WordPerfect format on an IBM format floppy or via AOL (BILLP10566). Mail copy to the address shown on the outside cover or to the editor at 256 East 5th Street, Houston, TX 77007. Copy must be received by the second Friday of the month for inclusion in the issue to be mailed 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;

AOL: BILLP10566; Internet: BILLP10566@AOL.COM

Reproduction: Mike & Judy Dye... Need help!! ... call the president to volunteer!!!

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## **Houston Astronomical Society**

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