

# GuideStar



November, 2014

Volume 32, #11

## No HAS Meeting at UH in November

November 7, 2014 —

### All-Clubs Meeting at HMNS

The board recommended and the membership approved the moving of the Annual Meeting to December. There will be no HAS meeting at the University of Houston.

Instead, please attend the annual All Clubs meeting at the Houston Museum of Natural Science in Hermann Park.

[http://www.astronomyday.net/regional\\_meeting.html](http://www.astronomyday.net/regional_meeting.html)

Registration begins at 7:00 p.m., and the meeting begins at 7:30 p.m.

**The speaker will be Justin Rennilson** who will be discussing images from the five Surveyor Missions to the Moon. Some of these images have never been seen in public. He was a co-investigator on the Surveyor Television Experiment and as a member of the Lunar Geology Exploration Team for Apollo until 1974. He also taught Observational Astronomy at San Diego State University from 1957-1961.

Light snacks and water will be available.

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



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

#### Highlights:

Summary of Proposed Bylaw Changes	4
Bill Kowalczyk — ISS Program Manager	9
An Ionized Flower Blooms in Space	12
Elected Leadership Positions for 2014	13
McDonald Astronomers Advise Research	14
Outdoor Lighting Control Activities	15
CH Cyg - Symbiotic Star System	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.

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

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

No Novice meeting in November —

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

No General meeting in November —

*See last page for directions and more information.*

## The Houston Astronomical Society

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

### Officers

President: Bill Pellerin ..... C:713-598-8543  
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 Secretary: Bill Flanagan .....  
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 Mark Holdsworth ..... H:713-478-4109  
 Bram Weisman .....  
 John Haynes ..... H:802-363-8123  
 Brian Cudnik ..... H:832-912-1244

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 Audit ..... Scott Mitchell ..... H:281-293-7818  
 Education ..... Debbie Moran .....  
 Field Tr./Obsg ..... Steve Fast ..... 713-898-2188  
 Novice ..... Debbie Moran  
 Program ..... Brian Cudnik ..... H:832-912-1244  
 Publicity ..... Bram Weisman  
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 Telescope ..... Allen Wilkerson  
 Welcoming ..... Vacant  
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### Ad-Hoc Committee Chairpersons

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 AL Coordinator ..... Doug McCormick .....  
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 Outreach ..... Bram Weisman .....  
 Webmaster ..... Jeffery McLaughlin .....  
 Email: webmaster@astronomyhouston.org  
 By-Laws Review ... Scott Mitchell ..... H:281-293-7818  
 Urban Observing .. Bram Weisman  
 Audio/Visual ..... Michael Rapp .....  
 Video ..... Rob Morehead .....  
 Steve Goldberg .... Recognition .....

### 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  
 Associate.....\$6  
 Sustaining .....\$50  
 Student .....\$12  
 Honorary..... N/C

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

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

## Table of Contents

3	.....President's Message
4	.....Summary of Proposed Bylaw Changes
6	.....November/December Calendar
7	.....Observations of the Editor
8	.....Observatory Corner
9	.....Bill Kowalczyk — ISS Program Manager
12	.....An Ionized Flower Blooms in Space
13	.....Elected Leadership Positions for 2014
14	.....McDonald Astronomers Advise Research Council
15	.....Outdoor Lighting Control Activities
16	.....CH Cyg - Symbiotic Star System

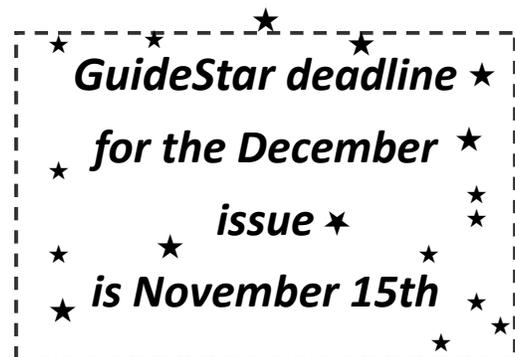
## Other Meetings...

**Johnson Space Center Astronomical Society** meets in the the Lunar and Planetary Institute on the 2nd Friday of each month. Web site: [www.jscas.net](http://www.jscas.net)

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

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

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



## President's Message

by Bill Pellerin, President

### **All Clubs Meeting**

The 2014 All Clubs meeting is on November 7, 2014 at the Houston Museum of Natural Science. Information on this event is available at this web address:

[http://www.astronomyday.net/regional\\_meeting.html](http://www.astronomyday.net/regional_meeting.html)

Note that this date is the first Friday of November, the Annual Meeting of the Houston Astronomical Society would otherwise be on this day. The membership voted at the October meeting to move the annual meeting to December.

### **Thanks to everyone who participates in outreach programs**

We've had several outreach events recently, and another (big) one coming up — Astronomy Day. These events wouldn't work if HAS members hadn't volunteered their time to participate. Thank you.

The last event that I participated in had lots of interested guests with questions about astronomy and about the HAS. I gave out a handful of HAS calling cards so it's likely that we'll see a few new members soon.

### **Bylaws revisions— (second) notice of vote!!**

Changes to the bylaws of the Houston Astronomical Society were presented to the board by three members of the executive committee - Bill Pellerin (president), Rene Gedaly (vice-president), and Bill Flanagan (Secretary). (Scott Mitchell has also helped with the review.) The purpose of the modifications was to make the document easier to read and understand and to resolve some issues that get in the way of the organization being able to conduct its business.

The board voted unanimously (in the 9/17/2014 board meeting) to support the adoption of the modified bylaws. Bylaws changes must be approved by the membership and will be presented at an upcoming meeting.

A summary of the changes and a copy of the original and the proposed bylaw documents is on the HAS web site, [www.astronomyhouston.org](http://www.astronomyhouston.org), and a summary of the changes is included in this issue of the *GuideStar*.

**There will be a vote by the membership, as required by the bylaws, to accept these revisions. The vote will be held at the Annual Meeting (see information under the All Clubs Meeting about the date of the Annual Meeting) of the HAS.**

**Copies of the existing bylaws, the proposed bylaws, and a description of the changes in the bylaws are available on the HAS web site: [www.astronomyhouston.org](http://www.astronomyhouston.org).**

### **Gathering HAS Historical Materials**

At the suggestion of Tom Williams and with the help of other current and former HAS members we're gathering materials that have been offered to the organization. These materials constitute the historical archives of the HAS. We'll need someone to review these materials and put them in some order. Perhaps you can help with that. Let me know if you're interested.

Beyond that, you, or someone you know may have other, similar materials that can be added to the archive. Please let us know about that.

*Cheers,*

*..Bill Pellerin*

*President*

## ***Summary of Proposed Bylaws Changes***

### TABLE 1. SUBSTANTIVE CHANGES

<i>Article</i>	<i>Section</i>	<i>Item</i>	<i>Proposed change</i>	
Article IV: MEMBERS	S2: DUES	1, 2	Deadline for dues is March 31 – lose membership benefits afterwards -- reinstatement	
		3	Clarify that dues are prorated for new members (only) Remove redundant wording	
	S3: VOTING PRIVILEGES			
	S4: MEETINGS	2	Add ability to change the month of the Annual Meeting	
	S5: NOTICE OF MEETINGS		Update definition about how meeting notices are delivered	
Article V: OF- FICERS	S6: QUORUM AND VOTING		Change the level of membership attendance required to establish a quorum from 15% to 10%	
			List the meetings that require a quorum to vote	
			Specify when Secretary must keep minutes	
Article VI. COMMITTEES	S5: DUTIES OF OFFICERS	3		
		S1: STANDING COMMITTEES	1(h)	Rename Education Committee the Education & Outreach Committee
			1(i)	
			1(i)	Dissolve Welcoming Committee
			2(d)	Create Membership Committee
	4(h)			
	4(i)	Remove requirement to present committee reports at Annual Meeting		
		Define function of Education & Outreach Committee		
		Define function of Membership Committee		
	S3: NOMINATING COMMITTEE	3	Add directors to list of nominated positions	
Article VII. BOARD OF DI- RECTORS	S2: ELECTION OF DIRECTORS	4	New item. Clarify that the election of the board is held at the Annual Meeting	
		1-4	Reorder items into sequence: Qualifications, Nominations, Vacancies, Election	
Article XI. METHOD OF ELECTION Provisos	S2: METHOD	2	Change the number of members required to tally votes	
			Remove the proviso section at the end of the Bylaws. It refers to the conversion and prorating of dues for sustaining members during 1997, and carries forward to this day if not removed	

*Continued on next page...*

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## TABLE 2. CHANGES TO MAKE BYLAWS EASIER TO READ

<i>Proposed change</i>	<i>Example</i>
Use the same terms	Is it bylaws or By-Laws or Bylaws? Standard terms are defined in the <i>Bylaws Style Guide</i>
Use parallel structure and phrasing	Many astronomers are also excellent communicators. And use good grammar
Use the present tense of verbs forms throughout the bylaws	<i>See above</i>
Use consistent punctuation and formatting	Punctuation conventions are defined in the <i>Bylaws Style Guide</i>

Pin down what “shall” means by replacing it with another choice:

The Board of Directors <b>shall</b> meet at least once each quarter...	Must they? Yes	The Board of Directors <b>must</b> meet at least once each quarter...
Meetings <b>shall</b> also be called upon written request of three (3) members...	Must they? No, but they can if they want to	Meetings <b>may</b> also be called upon written request of three (3) members...
The name of this corporation <b>shall be</b> HOUSTON ASTRONOMICAL SOCIETY	21 <sup>st</sup> century? No, and stop shouting	The name of this corporation <b>is</b> the Houston Astronomical Society.

*November/December*

# Calendar



Date	Time	Event
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**November**

1	8:00 a.m.	Mercury at greatest elongation west
2	2:00 a.m.	Daylight Savings Time ends, move clocks back 1hr
6	4:22 p.m.	Full Moon
7	7:00 p.m.	Regional All Clubs Meeting, HMNS Arnold Space Hall
8	3:00 p.m.	Astronomy Day, George Observatory
14	9:17 a.m.	Last Quarter Moon
17	4:00 p.m.	Leonid Meteors Peak
22	6:31 a.m.	New Moon Prime Night, Columbus Site
29	4:06 a.m.	First Quarter Moon

**December**

5	7:00 p.m.	HAS Novice Meeting, U of H
	8:00 p.m.	HAS General Meeting, U of H
6	6:26 a.m.	Full Moon
13		Geminid meteors peak
14	6:53 a.m.	Last Quarter Moon
20		Prime Night, Columbus Site
21	5:03 p.m.	Winter Solstice
	7:35 p.m.	New Moon
22		Ursid meteors peak
25		Christmas Day
28	12:32 p.m.	First Quarter Moon

Send calendar events to Doug McCormick - [skygazer10@sbcglobal.net](mailto:skygazer10@sbcglobal.net)

For the latest information on club events, go to <http://www.astronomyhouston.org/>

## HAS Board Meeting

HAS Board meetings are scheduled regularly (see the calendar, above). All members are invited to attend these meetings, but only board members can vote on issues brought before the board.

Meetings are held at the Houston Arboretum at 7:00 p.m. on the date specified.



Follow the *GuideStar* on Twitter at:

***GuideStar\_HAS***

Join Facebook and look for:

***Houston Astronomical Society***

***Starline***

Call 832-go4-HAS0 (**832-464-4270**) for the latest information on the meeting and other information about activities within the HAS.

***Event Notification or Cancellation***

HAS uses [RAINEDOUT.NET](http://RAINEDOUT.NET) to communicate late breaking updates about our various events. . Message delivery is via text messaging and e-mail. There are several ways to subscribe. If you would like to receive these notices via text messaging directly to your phone, subscribe to any of the sub-groups which interest you as follows:

To receive text messages, send any or all of the following (one at a time) to **84483**

You will receive a confirmation message back for each successful enrollment.

<i>Text Message</i>	<i>Alerts about...</i>
OUTREACH	Public Outreach Events
STARPARTY	Members Only Star Parties (HAS observ-
URBAN	Urban Observing Events
MEETINGS	HAS Meetings

You may also enroll your phone numbers or individual e-mail addresses via the website:

Here's a shortened link to get you there: <http://goo.gl/evrGsR>

For more information, please visit [www.RainedOut.net](http://www.RainedOut.net).

RainedOut notices will also automatically be sent to our e-mail list. Note that regular e-mail list conversations are not part of RainedOut communications and will not be sent to your phone as part of this service. Instructions to sign up for the e-mail list (a great way to keep your finger on the pulse of the club) are found here:

<http://www.astronomyhouston.org/about/email-list>.



## Observations... of the editor

by Bill Pellerin, GuideStar Editor

### More goings on —

I hope you've been able to take advantage of some of these clear dark nights we've been having. The skies have been very good to us amateur astronomers recently.

I have been processing a lot of variable star data recently and submitting the results to the AAVSO (American Association of Variable Star Observers). You don't have to take the data yourself. There are several online telescopes that will take the data for you. The AAVSO web site links to the VPHOT site for analyzing that data. There are some interesting things going on.

In the last issue I said the R Crb was now at magnitude 9.8. The latest information I have puts it at 8.37. You'll have to catch this star early after sunset and it's soon to be lost in the glare of the Sun.

### My Observing Process has Changed

It has been a long time since I've set up my telescope, camera, autoguider, etc., to get data on variable stars. While variable stars remain my primary astronomical interest I've been getting my data from other telescopes. For a good while, the iTelescope was providing me data (images) that I use to determine the magnitude of the variable stars. This, like other on-line telescopes, required that I set up the observations, grab the data, and do the analysis. The result is sent to the AAVSO (American Association of Variable Star Observers).

Now, I'm getting data from three telescopes — the iTelescope, the Bradford Robotic Telescope, and from a friend's telescope in the Texas Hill Country. Truth is, I can get much more data this way than I could ever get on my own. I spent a lot of time fiddling with my setup, trying to make it work better, and having disappointing observing sessions when things didn't go right and I got little to no useful data.

My role now is to queue up the observations, get and analyze the data, and report the results.

### What's next?

I continue to take great pleasure in doing visual observations of variable stars, and other things. I was at the 2014 Texas Star Party happily doing visual observations with my little 4" refractor. I've already started reconfiguring my observatory to do casual, visual observations. I've written over 100 Shallow Sky Object of the Month articles, so I now have an opportunity to get out and see these objects visually.

The Texas 45 sounds like fun as do several of the Astronomical

League observing programs including the Carbon Star club. I may even go back and visit my Stellar Evolution program with the intention of updating and improving the program.

Time goes on, and our areas of interest change. This is, in part, because new technology enables us to observe objects that we couldn't consider doing before.

Amateur astronomers are now doing observations that were unimaginable before — observing exoplanets transiting their host star by noting the reduction in brightness of the star.

Some things that amateurs used to do — comet finding, for example — have been supplanted by sky surveys or space-based instruments.

I expect to see amateur observations of variable stars to be replaced by robotic telescopes doing large surveys and computers which analyze the data.

None of this will replace the pleasure of seeing an object in the sky with your own eyes.

*Until next time...*

*clear skies and new moons!*

*..Bill*

# Observatory Corner

By Mike Edstrom, Observatory Director



Another well was drilled near the HAS Observatory site last month but when I was at the site last Saturday (10/11/14) the rig had been taken down. We heard a significant amount of noise from the drilling site, but here's hoping that they are finished drilling at that site.

There are some improvements being made at the Dark Site. We are adding some parking for visitors and additional locations for trailers. Two new permanent trailer rental sites and one new weekend trailer site are being added on the North road. These new rental spots have already been rented by individuals who were on a waiting list. Their rental fees will cover the cost of completing the ground work, and installing power and water. There is also a parking lot being added on the east road by the Private Observatories. This was in the plans for the Private Observatories and that cost is being paid for by the Private Observatory rentals over the next 2 years. The Observatory Committee is grateful to the Board for making the funds available to the Committee to make this project happen, a complete accounting of the repayment by rental fees is being tracked by the HAS Treasurer, please contact me or Don Selle with any questions.

We are coming into peak observing time of the year. With the first cool front now is the time to take advantage of HAS's most valued asset, the Dark Site. Please remember to fill out your observing log and put it in the center box on the observing field.

On November 1<sup>st</sup> the Observatory committee will meet at the Dark Site at 2 pm. Any HAS member is welcome to come and participate in the meeting. If you are planning to come to the meeting and want to stay to eat with us please RSVP by October 29<sup>th</sup> so we can buy enough food. If you have suggestions or comment for the committee please send them to [hasobschair@astronomyhouston.org](mailto:hasobschair@astronomyhouston.org) and I will bring them up in the meeting.

As you visit the Dark Site we invite you to make suggestions as to improvements you would like to see please put the on the log sheets.

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

## And the Work Goes On

I need to remind everyone that we need to start filling out Log Reports at the site so I can give this information to the Fondren Foundation. The property is on a 99 year lease and part of the Lease agreement is that HAS needs to report every year to the Fondren Foundation that the property is being used. The Log Reports are located in

the box in the middle of the field. Just open the cover, fill out the report and then slide it into the slot that is in the inside of the cover and then close the box. It is very important that everyone fill out a Log Report so that we are showing that the Observing site is being used. Your help on this is very much appreciated.

If you have a Randalls card, and have not done so, please have it coded for the Houston Astronomical Society. Our number is #6618. The Society gets 1% of the gross sales that member spends at Randalls. Randalls totals up the amount spent each quarter and will send us a check if the amount goes over \$2,500, otherwise the total roles over to the next quarter of zeros out at the end of the calendar year. So please link your Randalls card to the Houston Astronomical Society so that the society can benefit from this Randalls program. This is very easy to do, just go to the Courtesy Booth and tell the person there what you want to do.

*Mike Edstrom*

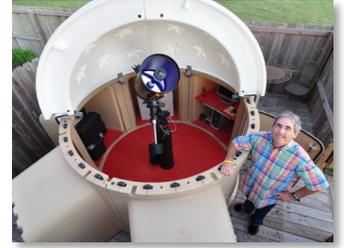
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[hasobschair@astronomyhouston.org](mailto:hasobschair@astronomyhouston.org)

## Just Looking

### A GuideStar Interview by Clayton L. Jeter

## Bill Kowalczyk — ISS Program Manager



Being a long time member here at HAS, I've come to think of our society as a "melting pot" with every walk of life, and profession. I think I have interviewed most too. But today we meet Bill Kowalczyk, a NASA employee who works with the ISS flight program.

Although a passionate professional in spaceflight programs, he's down to earth at our dark site in Columbus when looking up. Let's meet one of our own, Bill Kowalczyk...

#### The Bill Kowalczyk bio...

I was born in southern California in 1973, the child of a US Marine and Fisherman's Daughter. I have been married to the love of my life, Andrea, for 21 years now and last year we were blessed with a baby boy, Reid. I can't wait to share the heavens with him. My father became involved with NASA in the early 1980's at Vandenberg AFB where they were planning a second space shuttle launch site. In 1986 the Challenger disaster changed all that, so we migrated to the Kennedy Space Center where he could continue with the program. I graduated from high school there in 1990 and joined the USMC as a helicopter crew chief. I was based in southern California with Marine Air Group 39 for 6 years and was deployed to places like Okinawa Japan, South Korea, Eastern Russia, and the vast majority of the south western US. Following my service, I went back to school at Embry Riddle Aeronautical University and obtained my BS Degree in Professional Aeronautics. I have enjoyed an interesting and varied career in aviation and spaceflight. I have worked on just about every kind of airplane there is, tinkered on space suits and space shuttles, and helped to assemble and operate the international space station as a flight control engineer. I now work in the ISS program office where I am involved with the strategic planning for new US capabilities. Currently I'm focused on early to mid-2015 when we are going to reconfigure the ISS to support the new manned US spacecraft as well as multiple commercial cargo vehicles visiting at the same time. I have always loved astronomy and was the "armchair" type for many years; however, just a few years back I decided to take the plunge and buy that scope I always wanted. Following my purchase, I found HAS on the web and parked an RV at the dark site. I get out as much as possible; the dark site is such a great place. HAS is such a positive force in the local astronomy community; I just love being a small part of that group of curious and



Bill and his son Reid at our Columbus dark site

enthusiastic folks who love to share the wonders of the night sky with anyone that will listen.

#### The Bill Kowalczyk interview...

**Clayton:** It's really great Bill to have you take the time for this interview. Let's get going...

You said you were an armchair astronomer for years. Nothing wrong with that, but why didn't you jump onboard with a binocular/telescope purchase if the interest was there?

**Bill:** Well, I think I was a little bit uneducated on just how much you can see through affordable glass from a good location. For the longest time I assumed you needed a 200lb \$10,000 scope to see anything interesting. As a young man, I was never exposed to anything other than a shaky low quality Tasco scope the last time Halley's Comet was in town. I did try some binocular work some years back, but was dissatisfied with the results; however, I did not have the benefit of a great club like HAS to show me the ropes. For example, the awesome parallelogram bino mount Ed Fraini has put together. A few years back I was wondering through a book store and I came across a copy of *The Backyard Astronomer's Guide*; that book changed everything for me. If you are new to astronomy and want to know more about equipment options, you need that book.

**Clayton:** It must be exciting being part of the International Space Station (ISS) program. If you focused on one element of the various tasks that you

(Continued on page 10)

(Continued from page 9)

have performed at NASA, what would that be? Do you travel in your work?

**Bill:** Wow, that first part is a tough question; however, I would have to say that the biggest thing that I have focused on in my time with NASA has been supporting the assembly of the ISS. Be that in Florida preparing shuttles for assembly missions, working on space suits so the astronauts could go outside and put it all together, or planning and executing assembly missions as a flight control engineer. Helping put the ISS together has been the end result of nearly all my work for NASA over the years. Even now, I am helping to plan additional assembly missions, so we can make even more use of what is turning out to be an amazingly busy orbital outpost. As for NASA travel, I did perform shuttle recovery at Dryden a few times, but I would really like to head over to Russia to see the inner working of their space program.

**Clayton:** I very much like the above photo of you and Reid out on the observing field. I'm guessing he has peeped into one of your eyepieces more than once. Tell us about your equipment and your astronomy.

**Bill:** Well, that scope I always wanted was a big Meade SCT. I would look at those glossy Meade catalogues for hours when I was younger and didn't have the means to buy one. I happened to go onto the Cloudy Nights swap shop one evening (not sure if was actually cloudy or not) and found the exact scope I wanted, an 12" LX200 GPS SCT in mint condition, and it was listed for about half of the price of a new one. After a few hours of negotiations with my wife, I was given permission to wire the seller his money. I have never regretted that purchase, except when I am setting up on a hot summer day; it's a heavy scope. I have since added an 80mm William Optics piggy back APO, a William Optics Crayford focuser, and a Kendrick Didgefire dew heater system.

Since purchasing the scope I have everything up and running with SkyTools Pro and TheSky X using a POTH hub from the ASCOM open source. That set up allows me to work on several Astronomical League programs very quickly when I find time to get out to the site. So far I have finished the Carbon and Double Star observing programs, and I am nearing completion of the Herschel 400, Globular Cluster, and Planetary Nebula Programs.

**Clayton:** Seems you and your Dad run parallel with aeronautics via NASA. Is he too interested in amateur astronomy?

**Bill:** No, we don't share the same passion for astronomy, but he did get a chance to view the Moon and Saturn through my scope when he visited recently and I think he was shocked at the level of detail you can see from a driveway; I couldn't get him away from the eyepiece. I think it is something he is "thinking" more about now. Does that count as public outreach?

**Clayton:** You said you have turned a wrench on most aircraft. Do you happen to have an A&P license (Airframe and Power plant)? Also, do you fly?

**Bill:** I do have my A&P airman's certificate, but I have let it lapse since I am no longer involved in general aviation. I have always loved flying, but never had a lot of fun with it once I got out of the military. Not enough flying by the seat of the pants I guess. I have considered getting my private license many times, but I also have promised my wife that I would not do "helicopters" anymore, and I hate landing going more than 10 mph. Maybe that will change one day.

**Clayton:** Working in your position at NASA, do you work alongside with our astronauts?

**Bill:** In flight control, we support all aspects of the astronaut's mission. This requires that we all train in the same environment and work together every day they are up on the station. An example: In December of last year, you may recall there was a major failure of one of the external cooling pumps on the station. The console position I was trained in, SPARTAN, is responsible for the operation of that system, so I was tasked with leading the SPARTAN ground effort to help the astronauts replace the pump. I had the pleasure of working with two experienced space walkers to determine the best line pressures to use that allowed for the greatest chances for successful de-mating and mating of the anhydrous ammonia lines in space. Astronauts are a different breed, they are calm, focused, smart, and most of all, ridiculously brave.

**Clayton:** You must be very familiar with the new Orion program. From what I've read, it looks so exciting. Are you ready to travel to Mars?

**Bill:** Unfortunately, I'm not that familiar with the Orion program since I'm fo-

(Continued on page 11)

*(Continued from page 10)*

cused on ISS, but I am very excited about its potential. A few years back I could not even fathom that we would be able to venture to Mars in our lifetime. If we were to perform such a mission, I would be just as excited as I was about STS-1 when I woke up so early in the morning to watch the launch coverage. I would love for my son to have such a magical experience. It's so inspirational as a youngster to see such feats accomplished for the first time.

**Clayton:** Multiple commercial cargo vehicles. Tell us a bit about that program.

**Bill:** Currently the ISS can accommodate two cargo vehicles at the same time, on the zenith and nadir common berthing ports of Node 2 (front of ISS), but this configuration limits the number of US crewed space craft that could be flown to the ISS at any given time. So, we are planning to shuffle some major parts of the space station around so that we can dock two cargo vehicles to Node 1 and Node 2 nadir ports, and allow for the new US crewed SpaceX Dragon Rider and CST-100 spacecraft to dock to the forward and zenith ports of Node 2. Can you imagine 8 different spacecraft (4 crew and 4 cargo) visiting the ISS at one time? 4 on the US side and 4 on the Russian side. That's a huge presence in low earth orbit!

**Clayton:** How would you like to see your own astronomy grow? Do you only observe at Columbus? Any major star parties yet?

**Bill:** I am very into visual astronomy right now, but as my life will enviably slow down at some point, I would love to invest in a personal observatory and purchase some quality imaging equipment and software. Currently I do the majority of my observing in Columbus, but I have taken my RV and scope around the state and worked on some AL programs in various state parks. I did make it out to TSP in 2012 where I was actually able to easily see the Eagle Nebula in my 12" SCT. I tried that several times at the dark site to no avail.

**Clayton:** Have you gotten bit by the talked about "telescope aperture fever"?

**Bill:** Only when Larry or Walt set up their massive Dobs and let me take a peek. I usually just go cover up my scope and go to bed after I look through one of their scopes. I think I would very much enjoy owning a 25-30" light bucket at some point.

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

**Bill:** Aside from getting a copy *The Backyard Astronomers Guide* and spending time looking through different equipment, I highly recommend reading up on stellar processes on cloudy nights. I find that my mind wonders when I read about the incredible physics taking place inside stars. It enriches the visual astronomy experience, you understand more about what you are seeing

through your telescope. I also highly recommend reading the first part of C Burnham's *Celestial Handbook* volume 1 where he describes the vastness of space. He really helps the reader comprehend the interstellar and intergalactic distances involved.

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

**Bill:** Sure, I can be reached on the HAS net slider or at [wkowalc@gmail.com](mailto:wkowalc@gmail.com)

**Clayton:** Thanks Bill for taking the time to share your interest and thoughts within our HAS newsletter, the *GuideStar*. We wish you luck with all of your astronomy interests.

Clear skies always...

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

## ***An Ionized Flower Blooms in Space***

By Phil Plait, [http://www.slate.com/authors.phil\\_plait.html](http://www.slate.com/authors.phil_plait.html)

Oh, do I love me some young stars throwing their weight around! Behold what happens when they do:

This photo was taken by “amateur” astronomer Kerry-Ann Lecky Hepburn, using a 20 cm Astro-Tech RC telescope, and is a total of nearly nine hours of exposure through various filters.

What it shows is the famed Cocoon Nebula, also called IC 5146.



*Like a flower trillions of kilometers across — and true to its name — the Cocoon Nebula is the site of active star birth. Click to enpupante. Photo by Kerry-Ann Lecky Hepburn, used by permission*

What you’re seeing is actually a cluster of young stars called Collinder 470, which is roughly 2500 light years away. And I do mean young; the bright star in the center of the nebula is only about 100,000 years old. Compare that to the Sun’s 4,560,000,000 years, and you’ll understand why these stars are mere whippersnappers.

Stars form from clouds of gas and dust, and there are both in plenty here. The dark dust is strewn everywhere in this picture; you can see it as gray or black diffuse clouds. Note that where it lies, swaths of stars appear red; dust scatters away or absorbs blue light, letting only red light through. Most of the stars you see glowing ruddily in the dust are literally in that dust, or behind it.

But the bloom of the rose in this photo is obviously the bright pink nebula itself. The star in the center, called BD+46°3474, is a hot, massive B-type star. It’s a beast, five times the diameter of the Sun, 15 times its mass, and a brutal 20,000 times as luminous. Replace the Sun with BD+46 and the Earth would be a smoking ruin.

The power of a star like this can profoundly affect its environ-

ment. In this case, the star is embedded in a molecular cloud, a huge, dense clump of cold material — in this case, several hundred times the mass of the Sun worth of material. BD+46 was near the edge of the cloud, and when the star was born, its fierce light and energy inflated the cloud, created a blister in the side, and then blew it out entirely. What’s left is a cavity carved out of the side of the dense cloud filled with much lower density gas. The hydrogen gas inside the cavity glows characteristically red/pink, lit up literally like a neon sign.

At first I thought this might be a Strömgren sphere: a lone gas cloud in space lit by a star within. The edge of such a sphere is defined by where the starlight gets too weak to make the gas glow. But those tend to have sharper edges than what we see here, and clearly the Cocoon has fuzzy edges. That implies the gas is interacting with denser material, which is what you expect from a blowout in the side of the cloud. In this sense, it’s much like the Orion nebula, though on a somewhat smaller scale.

Gorgeous, isn’t it? If you like it, you should check out more of Hepburn’s work (<http://www.weatherandsky.com/>). She’s quite gifted, and has an amazing array of photos on her site.

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## **Elected leadership positions for 2015: Two slates**

***Submitted by the 2014 Nominating Committee: Mike Edstrom, John Haynes, Jessica Kingsley, Debbie Moran, and Rene Gedaly, Chairperson***

**F**or the first time in HAS history, this year's slate of candidates for the following year may change. We, the nominating committee, enthusiastically support each of these candidates. But because the board of directors is hoping you, the membership, will vote to update the bylaws this year, the committees, and therefore nominees, may get shuffled.

Below we present two slates of candidates for 2015. The first slate contains our nominees for the board and standing committees established under the current bylaws. The second contains the same candidates plus one, but in the positions that reflect updated bylaws.

If you vote down the proposed changes to the bylaws, the first slate goes into effect. If, however, you vote to approve changes to the bylaws that govern our society, you agree to create the Membership committee—promoted from an ad hoc to a standing committee, dissolve the Welcome committee, and create the new Education & Outreach committee—a combination of the standing Education and ad hoc Outreach committees. Board positions remain the same.

*The Nominating Committee encourages all members to attend the next annual meeting. A quorum of 15 percent of the membership is required to both change the bylaws and vote in the 2015 leadership.*

<b><i>Nominations for 2015 Elected Leadership Positions</i></b>			
<b><i>1st Slate: Under current bylaws</i></b>		<b><i>2nd slate: Under new bylaws</i></b>	
President	Rene Gedaly	President	Rene Gedaly
Vice President	John Haynes	Vice President	John Haynes
Secretary	Bill Flanagan	Secretary	Bill Flanagan
Treasurer	Don Selle	Treasurer	Don Selle
Director	Ash Alashqar	Director	Ash Alashqar
Director	Mark Holdsworth	Director	Mark Holdsworth
Director	Jessica Kingsley	Director	Jessica Kingsley
Director	Debbie Moran	Director	Debbie Moran
Director	Bram Weisman	Director	Bram Weisman
Telescope	Allen Wilkerson	Telescope	Allen Wilkerson
Field Trip & Observing	Stephen Jones	Field Trip & Observing	Stephen Jones
Program	Justin McCollum	Program	Justin McCollum
Publicity	Bram Weisman	Publicity	Bram Weisman
Novice	Debbie Moran	Novice	Debbie Moran
Audit	Scott Mitchell	Audit	Scott Mitchell
Observatory	Mike Edstrom	Observatory	Mike Edstrom
Education	Debbie Moran	* Education & Outreach	Bram Weisman
Welcoming	Vacant	* Membership	Steve Fast
		<i>*New committee</i>	

## McDonald Observatory Astronomers Advise National Research Council



Astronomers from McDonald Observatory are providing input to the National Research Council (NRC) on a variety of topics in response to a community-wide request from the council in late August. The NRC has a committee on optical and infrared astronomy that is seeking input on topics important to the future of the field in the United States in the era of the forthcoming Large Synoptic Survey Telescope (LSST).

“UT-Austin welcomes this opportunity to share our achievements and perspectives on the future with this important committee,” said Dr. Taft Armandroff, Director of McDonald Observatory. “Its findings will help shape the future of U.S. astronomy.”

The observatory’s input to NRC takes the form of four white papers on various topics, detailed below. The Giant Magellan Telescope (GMT) Organization, of which McDonald Observatory is a founding member, has also submitted a pair of white papers.

Armandroff and GMT Director Dr. Patrick McCarthy have been invited to present at the committee’s meeting on October 12 and 13 in Irvine, Calif. The committee includes Dr. J. Craig Wheeler, the Samuel and Fern Yanagisawa Regents Professor in Astronomy at The University of Texas at Austin.

Details on the papers, and links to read them, are available below.

Submitted papers include:

### Telescopes and Instruments at McDonald Observatory

The telescopes and instruments available at McDonald comprise a powerful resource with some unique capabilities for addressing the priority scientific issues of the U.S. astronomy community. McDonald Observatory is prepared to participate in a national clearinghouse whereby we could offer some time with our telescopes to the broad U.S. community and secure in return either funding for instrumentation development or access to observing time elsewhere with capabilities not available at McDonald. [\[Click to access this white paper by Dr. Taft Armandroff.\]](#)

### Instrument Development at McDonald Observatory

New instrumentation development is vital to maximizing the scientific productivity of an observatory and aligning it with the competitive scientific environment. McDonald Observatory conducts a vigorous program of advanced instrumentation development. Federal funding for developing new instrumentation is very important to maintaining the vitality of U.S. independent observatories such as McDonald. [\[Click to access this white paper by Drs. Taft Armandroff, Gary Hill, Dan Jaffe, and Phillip MacQueen.\]](#)

### Training at McDonald Observatory

The University of Texas astronomy program excels at offering opportunities for hands-on observing and instrumentation development for students and early career scientists. [\[Click to access this white paper by Drs. Sarah Tuttle, Cynthia Froning, Hanshin Lee, and Mike Montgomery.\]](#)

Software Development at McDonald Observatory  
Software development plays a key role in today’s observatory in the modern era of big data, and merits special consideration. [\[Click to access this white paper by Drs. Niv Drory, Matthew Shetrone, and Niall Gaffney.\]](#)

### GMT’s Breakthrough Observing Capabilities

This paper outlines the GMT’s breakthrough observing capabilities and presents the opportunity for one or more federal agencies to partner with GMT. [\[Click to access white paper by the GMT Board, including Dr. Taft Armandroff and UT-Austin Dean of Natural Sciences Dr. Linda Hicke.\]](#)

### GMT’s Role in the U.S. Observing Community

This paper outlines the GMT’s role in the U.S. Optical and Infrared System and its relation to other major facilities, including the forthcoming Large Synoptic Survey Telescope (LSST). [\[Click to access the white paper by the GMT Scientific Advisory Committee, including Dr. Anita Cochran.\]](#)



*Instrument-building astronomers Gary Hill (left) and Phillip MacQueen pose with the Mitchell Spectrograph, which is mounted on the Harlan J. Smith Telescope at McDonald Observatory. Formerly known as VIRUS-P, the Mitchell Spectrograph is the prototype for the VIRUS instrument that will be created for the Hobby-Eberly Telescope (HET) to carry out the HET Dark Energy Experiment (HETDEX). Credit: Marty Harris/McDonald Obs./UT-Austin*

Courtesy The University of Texas at Austin  
McDonald Observatory, publisher of *StarDate*  
magazine  
<http://stardate.org/magazine>

# Outdoor Lighting Control Activities

by Bill Wren, McDonald Observatory



**B**ill Wren was a speaker at the 2014 Texas Star Party at the Prude Ranch near Fort Davis, Tx. He talked about his efforts at controlling light pollution to the benefit of the McDonald Observatory. His efforts also benefit those of us who attend the Texas Star Party or who have observing sites near the McDonald.

Here's his latest report:

- 1) Oil/gas Industry Lighting 5 Efforts to raise awareness among oil and gas companies of the impact of their activities on the observatory's night skies are having the desired effects. Counties are receiving requests for copies of their lighting ordinances, and contractors are contacting the observatory to inquire about dark sky friendly light fixtures. A joint report and poster paper on oilfield lighting from Pioneer Energy Services and McDonald Observatory can be found at:  
[http://mcdonaldobservatory.org/sites/default/files/pdfs/oilfield\\_lighting\\_can\\_coexist.pdf](http://mcdonaldobservatory.org/sites/default/files/pdfs/oilfield_lighting_can_coexist.pdf)
- 2) The Fort Davis Inn received 25 replacement post top light fixtures for its fence line along the Balmorhea highway. The purchase was made possible by a \$2500 donation from the Texas Star Party.
- 3) The Prude Ranch received 29 replacement fixtures for lighting on their cabins. The purchase was made possible by a donation from the late Joe Orr.
- 4) Duncan Disposal, Alpine, before and after shielding its floodlights as seen from Sierra la Rana near Alpine:



**Check the web site:**  
[www.astronomyhouston.org](http://www.astronomyhouston.org)

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

Questions about the site? Need a hand to get your account set up? Contact [webmaster@astronomyhouston.org](mailto:webmaster@astronomyhouston.org).

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

## Shallow Sky Object of the Month

# CH Cyg — Symbiotic Star System

By Bill Pellerin, GuideStar Editor

**Object:** CH Cyg  
**Class:** Symbiotic Star System  
**Magnitude:** 6 to 8  
**R.A.:** 19 h, 24 m, 33 s  
**Dec:** + 50 degrees, 14 minutes, 29 seconds  
**Distance:** 875 ly  
**Constellation:** Cygnus  
**Optics needed:** Small telescope

### Why this object is interesting:

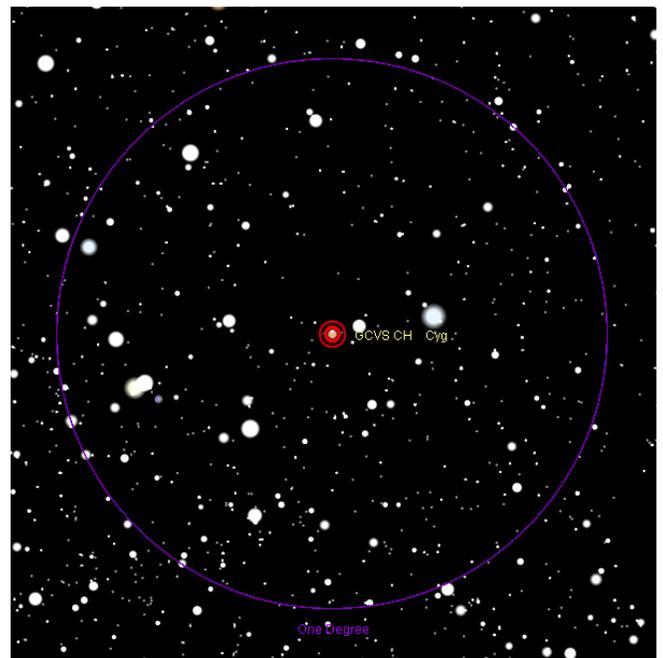
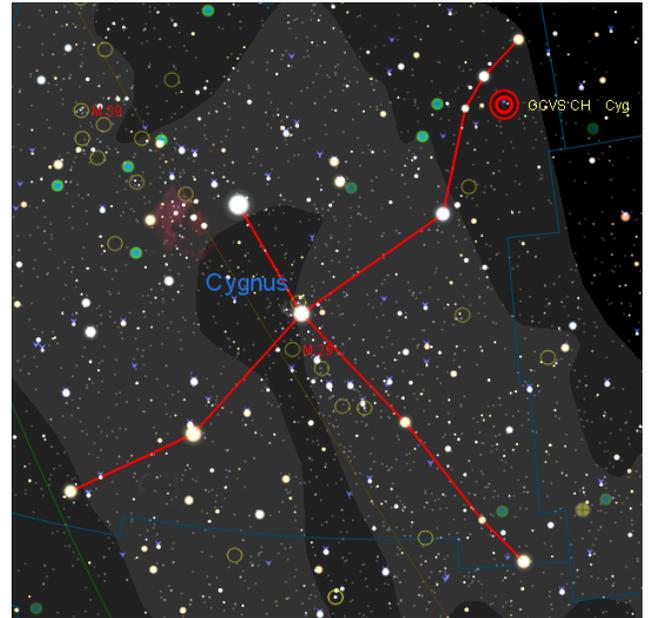
Williamina Fleming worked at the Harvard Observatory in the early 1900's classifying stars according to their spectra. It is her that you have to thank for classifying stars according to the strength of their hydrogen line (A stars had the most hydrogen, and subsequent letters had less). When it was decided to classify stars by color (temperature) the classifications were rearranged to OBAFGKM, with O stars being the hottest and bluest and M stars being the coolest and reddest.

Mrs. Fleming, as part of her work, identified stars that didn't conform to the majority of stars and published a paper called "Stars Having Peculiar Spectra". One of these stars was CH Cyg and it was peculiar because it contained the signature in its spectra of both hot and cool stars. How can this be?

The easy, and correct, answer is that, yes, what we see is really two stars that are orbiting so close to each other that material is being exchanged between the two stars. Specifically, scientists now think that one of the stars is a M (red) giant and the other star is likely to be a white dwarf. A white dwarf is not really a star in any conventional sense; there's no nuclear fusion going on. It's the remnant of a low mass star that has used up all its fuel and which is now glowing from residual heat.

There are variations in brightness that can be attributed to the system being a double star (one star eclipses the other), and there are variations that are likely associated with the transfer of mass to the white dwarf. Think of these as star-burps.

You can check the magnitude of the star at [AAVSO.org](http://AAVSO.org). Simply enter the star name to view a graph of the brightness over time.



Finder and detail charts, north is up. The circle on the bottom chart is one degree on the sky.

Star charts generated by TheSkyX © Software Bisque, Inc. All rights reserved. [www.bisque.com](http://www.bisque.com)

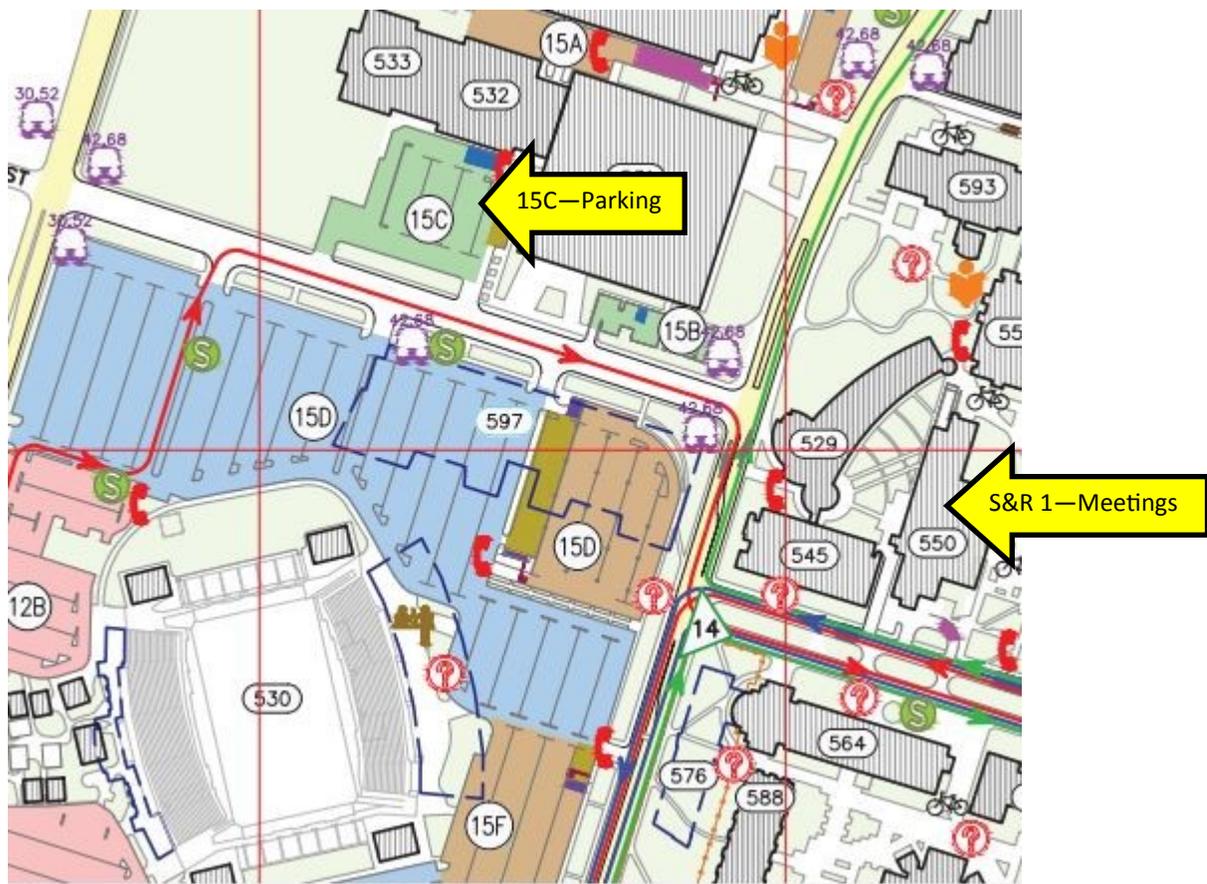
## ***Parking at the University of Houston Main Campus***

### ***For the monthly Houston Astronomical Society Meeting***

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

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

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



# **Houston Astronomical Society**

P.O. Box 800564

Houston, TX 77280-0564

## **General Membership Meeting**

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

## **Board of Directors Meeting**

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

## **GuideStar Information**

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

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

The benefits of membership are:

- Access to our 18 acre observing site west of Houston -- a great place to observe the universe!
- A telescope loaner program -- borrow a HAS telescope and try observing for yourself!
- A monthly novice meeting, site orientation meeting, and general meeting with speakers of interest. Access to meeting videos on the HAS web site.
- 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.***

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## ***Houston Astronomical Society***

### ***No meeting at UH in November***

#### **Meeting on Friday, December 5, 2014**

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

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

#### **University of Houston**

##### **Directions to meeting:**

##### **From I-45 going south (from downtown)**

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

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

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

##### **Parking:**

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