

GuideStar



September, 2010
Volume 28, #9

At the September 3 meeting...

Seven Wonders of the Universe

Dr. Renee James — Sam Houston State University

Dr. Renee James' new book will be called *Seven Wonders of the Universe That You Probably Took for Granted* and will be released later this year. HAS members will be privileged to get a preview of this book when Dr. James speaks to the membership in September. Three of the wonders are:

- Night
- Gravity
- Light

...and while you may think you know something about each of these, she brings a new perspective to these. She'll answer seemingly simple questions like, "Why is the Sky Dark at Night?" You may be surprised by the *real* answer.



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

Highlights:

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HAS Web Page:

<http://www.AstronomyHouston.org>

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

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.
Astronomical presentation of interest to new observers

General meeting: 8:00 p.m.

See last page for directions and more information.

The Houston Astronomical Society

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

Officers & Past President

President: Ken Miller C:713-826-1049
 Vice Pres: Gordon Houston C:713-906-9101
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Additional Board Members

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 Jay Levy H:281-557-4920
 John Missavage C:281-795-4443

Committee Chairpersons

Audit Tom Blocker H:281-498-0341
 Education Richard Nugent H:713-524-1993
 Field Tr./Obsg Mike Edstrom H:281-347-7267
 Novice Justin McCollum H:409-212-2795
 Observatory Bob Rogers H:281-460-1573
 Program Brian Cudnik H:832-912-1244
 Publicity John Missavage C:281-795-4443
 Telescope Bram Weisman H:281-398-9434
 Welcoming Katy Keene
 katykeene@comcast.net

Ad-Hoc Committee Chairpersons

Texas Star Pty Steve Goldberg H:713-721-5077

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.

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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

- 9/11 All Clubs with B-B-Que
- 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

GuideStar this Month

Thanks to everyone who contributed content to this month's *GuideStar*. It's the content that makes the newsletter, and it is you who create the content. Anyone is invited to submit an article for the *GuideStar*!

In addition to the usual features we have an item by Allan Cook describing the current condition of the Holmdel antenna that was used to discover the cosmic background radiation. Following that is an article by Allen Gilchrist describing a trip that he and Peggy made to the Mauna Kea observatory, with excellent photographs accompanying the article.

Our interview by Clayton Jeter is with Dean Koenig of Starizona. Dean was the guy who set up the star party at the White House, so you'll find him interesting.

Rene Gedaly keeps us up-to-date with our meeting minutes, and Bob Rogers, our hard working observatory chairman tells us what's going on at the observing site (and asks for contributions).

HAS on Facebook

The Houston Astronomical Society now has a Facebook page. I'm no expert on Facebook, but I can give you enough information to get started and to keep an eye on the HAS page.

First things first. What is Facebook? It's a social networking site where you can connect with friends and family and they can connect with you. You can share comments, photographs, links to interesting web sites, and more. Of course, all these people can keep up with you too. There are quite a few HAS members already on Facebook, so you'll be among friends when you join.

Getting set up. You'll need an account, but it's free to set one up. Go to www.facebook.com and sign up. Once you've done this, you can set up friends by typing their name in the 'Search' field at the top of the page. If they are on Facebook, you'll be taken to his or her page. Click on Add as a Friend. The person has to 'allow' you to be his or her friend, so the next thing that will happen is that a request gets sent. You can also 'subscribe' to the person's posts and get a 'news' feed of what is going on with them.

Likewise, type 'Houston Astronomical Society' in the 'Search' field and you'll be taken to that page. Since you can't be a friend of a group you can only click 'Like' which will get the information from

the club site to you.

You can post items on the 'Wall' of the HAS page for everybody else to see, too.

I use Facebook to keep in touch with friends and family, some of whom I haven't seen in many years.

New Article on AstroLeague Web Site

I have a new article on the Astronomy League web site. It's about telescopes — called 'Aperture Isn't Everything'. Check it out at www.astroleague.org.

HAS Member Wins Trip to NEAF

Look on page 10 of the September, 2010 *Astronomy* magazine. There, you'll find a picture of and a letter by HAS member Adam Atanas. Adam won *Astronomy* magazine's Youth Essay Contest and was awarded a trip to NEAF. The photo is of Adam with Dr. Alex Filippenko at NEAF. Congratulations to Adam.

Clear Skies on 3 Consecutive Saturdays

We all bemoan lost observing opportunities due to clouds or full moons, but last month we had three consecutive Saturdays of clear skies. These were the Saturday nights of July 31, August 7, and August 14. These were also the Saturday nights surrounding the new moon.

It has been frightfully warm this August, but I found that as the night wore on, it was actually quite comfortable outside. With sufficient mosquito repellent applied I had three

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weekends in a row of good observing. What luck.

I was able to get about 30 variable star measurements. One star I've been following for a while, and which is sinking in the west is R Crb (R Corona Borealis). It's shining at about mag 14.3 — pretty dim, and has been dim for several years! When it's bright, it's nearer 6th magnitude and would be easy with binoculars. This carbon star blows off its atmosphere and hides behind the material. Usually not for this long, though. R Crb dropped from mag 6 to mag 14 in the summer of 2007!

Power Connectors —

I've struggled with the power connectors on my telescope, on my camera, and on my dew heater. All of these have the 'standard' cigarette-lighter plug attached to the end of the cord, but I've never been happy with these connectors. They're big, bulky, and unreliable. More than once I've had the power to my mount become disconnected because the plug wasn't fully engaged in the first place. When this happens I have to re-align the mount, a bit of a pain. My fault, yeah, but I've been wanting to replace these with something smaller and more reliable.

Several of us in the HAS are also licensed amateur radio operators (hams). Our president, Ken Miller is one and so is Kenneth Drake. There are probably others. Anyway, I got a radio magazine in my mailbox this week (it's called *QST*) and on page 36 is an article describing the power connector I've been looking for. It is small, inexpensive, reliable, and there are lots of add-ons available (line filters, power distribution blocks, etc.).

Here is one of the best features. These connectors are genderless. This means that any connector connects with any other connector so once you've equipped your power distribution system with these connectors anything will connect to anything else. They come with various current ratings so you'll be able to find a set that meets your needs.

Disclaimer: I don't have a financial interest in the company that make these or any company that sells these.

Check these out at www.powerwerx.com, although I'm sure that other vendors sell them. They're called Anderson Powerpoles. I ordered some earlier this week and received them a couple of days ago as I write this. I haven't installed them on my power cords yet, but plan to do so soon. If I learn anything new from this experience, I'll let you know.

Free Software... sort of

I don't normally save pages of the newspaper, but the August 16 edition of the Houston Chronicle (page D1) has an article about 'Apps for

Free' by Rene' Guzman — about software you can get for free and on-line capabilities you can use for free.

This is good stuff. You can find the article here:

http://www.mysanantonio.com/life/Apps_for_free_100757819.html

This is the San Antonio newspaper — where (I guess) the article was first published.

I used the free online photo editor Picnik (picnik.com) to edit the photos that illustrate my article on the Astronomical League conference. The free editor is fairly basic, allowing cropping, red-eye removal and changes in brightness and contrast. It was enough for what I wanted to do, however.

I was in a bookstore last night. There are lots of books that will help you use commercial software (Photoshop, for example), but no books on using free software. If your needs are simple and you're willing to put in the effort to figure out the free software and services, go for the free stuff. If your needs are more complex and you need support (books etc.) to use the product, a commercial product may fit your needs better.

Until next time...

clear skies and new moons!

..Bill

Report - Astronomical League Conference

By Bill Pellerin, GuideStar editor

As many of you know, the Houston Astronomical Society is a member club of the Astronomical League. Almost every month at our meetings Amelia Goldberg awards at least one of our members with a certificate and a pin in recognition of that member having completed one of the AL observing programs. Amelia knows a lot about these programs since she wrote one (Universe Sampler) and has completed 10 of them and has earned the Master Observer award.

There's more to the Astronomical League than the awards, however. The AL holds an annual conference and expo. This year it was in Tucson, AZ and was held from June 24 (Thursday) through June 27 (Sunday). I went to the event this year — the second of these conferences that I've attended.

There's a lot that is packed into the three day conference. In this case, the Lunt Solar Conference was held at the same place and time and the International Dark Sky Association Annual general meeting was coincident as well.

Here were a few things that happened at the conference:



David Levy shows guests his Jarnac Observatory



Roger Angel discusses solar power generation.

- Thursday evening — a visit to David and Wendy Levy's Jarnac Observatory — lots of telescopes and observatories. See more at www.jarnac.org.

Speakers on Friday, Saturday, and Sunday

- David Eicher—Editor *Astronomy* magazine on *Astronomy's New Frontier*
- Lunch speaker—David Levy — *Poetry of the Night: Discovering a Relation Between Literature and the Night Sky*
- J. Kelly Beatty —Contributor *Sky and Telescope*—*Pro-Am Collaborator: Looking Back, Looking Forward*

- Vivian White—*Night Sky Network* — *Energize Your Astronomy Club* — how

the resources of the NSN can be used to enhance the capabilities of your club. (HAS already uses the NSN)

- Joe Lupica—CEO of Celestron— *50 Years of Celestron History*
- Banquet — Dr. Roger Angel, world famous optical designer spoke about focusing solar power
- Dr. Tyler Nordgren — *Stars Above, Earth Below: Astronomy in the National Parks*. There is work being done to ensure that our national parks provide an excellent nighttime experience to guests.
- Solar Observing — Lunt Solar Telescopes (hydrogen alpha) were set up every day for observing the Sun. Excellent views.
- Vendor Area — Many vendors including Celestron, Oceanside Photo and Telescope, ATIK Cameras, Light Buckets Online Telescopes, Starizona, and several others
- Door prizes included
- Lunt Telescope-a solar telescope
- Celestron-a Nexstar 8SE SCT
- OPT - 6" Newtonian
- TeleVue provided a complete set of Ethos eyepieces to a fortunate International Dark Sky Association member.

A Letter from Allan Cook

The Bell Laboratories Horn Antenna in Holmdel, New Jersey stands as one of the most revered icons of Radio Astronomy and modern cosmology. By virtue of its skillful employment, Arno Penzias and Robert Wilson won the Nobel Prize for Physics for their discovery of the Cosmic Microwave Background Radiation. The same as with Edwin Hubble and the 100 inch Hooker Telescope at Mt. Wilson Observatory, the names Penzias and Wilson are rarely mentioned without a reference to the Horn Antenna. The purpose of this letter is to share, with as many people as possible, the sad story of what has been allowed to happen to this magnificent piece of engineering technology.

In May of 2010, I made the journey from Cleveland Ohio to Holmdel, New Jersey with the sole purpose of seeing the Horn Antenna. What I found on arrival both saddened and maddened me. I found that the antenna had been sadly neglected and allowed deteriorate by those charged with the care of this National Historic Landmark, Alcatel-Lucent Technologies.

Upon returning home, I immediately contacted the National Park Service (NPS) and reported what I had seen. Although the NPS was sympathetic, I was informed that they have no enforcement power to assure that any landmark is actually maintained. They can make suggestions but it is up to the individual caretakers as to what recommendations they follow and which they ignore. This revelation came as a real surprise to me! My complaint did result in an ad hoc coat of paint and a few repairs but what is really needed is an on-going maintenance schedule. I heard nothing of plans for such a schedule. Without this commitment the Horn Antenna will inevitably return to the same, or worse, condition than it was in when I encountered it.

Faced with the above reality, I contacted the Smithsonian Institute to gauge their interest in acquiring the Horn Antenna as an exhibit. They informed me that both they and the National Radio Astronomy Observatory, in Green Bank, West Virginia, were previously and are currently interested in obtaining, and caring for, the antenna. The main obstruction to either organization making this acquisition was Alcatel-Lucent Technologies' reluctance to donate the item. The very people entrusted with the Horn Antenna's wellbeing are neither willing to providing the necessary care required by the antenna nor are they willing to give it to anyone who would be willing, and in an excellent position, to do so. These facts have moved me beyond frustration.

I have reached the point where I don't think that there is anything else that I, as an individual, can do to achieve my goal of having the Horn Antenna restored to and maintained in the condition that it was in when so adroitly used by Penzias and Wilson. Perhaps if others, who share my passion for astronomy and history, became aware of the

situation and became, even peripherally involved, a momentum could be created that would change the dynamics of what is now a static situation. To this end, I am sending this letter to the many places that I am certain that my passion is shared, the astronomy clubs throughout the United States. I ask that you post this letter on your web site, include it in your newsletters and disseminate the information in



any manner you have at your disposal. I also ask that as many people as possible contact Alcatel-Lucent Technologies in France and the United States and encourage them to donate the Horn Antenna to either the Smithsonian Institute or the National Radio Astronomy Observatory. Finally, I ask that these same people contact the National Park Service and share our concern with them.

It is my hope that someday, in the near future, I will be able to, again, visit the Horn Antenna but under the conditions such a historic instrument has earned and deserves.

Sincerely,

Allan F. Cook

Acantares@aol.com

A Visit to Mauna Kea

By Allen Gilchrist

During a recent vacation, Peggy and I took a trip to Hawaii. There are a lot of things to see and do on the islands, but one of the things we specifically wanted to include was a visit to the observatories on Mauna Kea. At 13,803 feet, Mauna Kea is the tallest of five volcanoes that make up the Big Island of Hawaii. The observatories on



Our tour van carried 15 passengers including our driver.

Mauna Kea are on state owned public land, and the road to the summit is open to the public. Several miles of the road, however, are not paved, and it is quite steep in places. You can't just drive your standard rental car up to the observatories. In fact, most rental car contracts are voided if you drive on these steep unpaved roads. The alternatives are to rent a four-wheel-drive vehicle or take a commercial tour.

We opted for the commercial tour. There are several companies offering this service. They will pick you up at a convenient location or at your hotel depending on where you are staying, take you up the mountain with a stop for dinner on the way up, and then take you to the summit to see the observatories, and perhaps a view of the sunset. The company we chose did all this and then took us back down to the 9,000 foot level near the Mauna Kea Visitor's Center for a private star party.

The Big Island has two international airports, one at Hilo on the eastern side of the island and one at Kona on the west side. Kona is closer to Mauna Kea, but Hilo is closer to the Volcanoes National Park. We stayed in Hilo so

we could visit the volcanoes more easily and drove around the coast road to the west side of the island on the day of our tour. This coast road, by the way, is one of the most scenic in the United States with stunning ocean views on one side and lush vegetation and striking waterfalls on the other.

We arrived at our rendezvous location and were picked up at about 4:30 PM.

The tour bus was an all wheel drive 15-passenger van that carried our group up the mountain to our first stop at the Onizuka Center – the Mauna Kea Visitors Center.

Much of The Big Island is a tropical rain forest, with clouds and rain almost a daily occurrence. The observatories on Mauna Kea, however, enjoy a very low incidence of clouds affecting observations. The photo of Peggy and me at the 9,300 ft level near the Visitors Center shows the



Near the Onizuka Visitor's Center at the 9,300 foot level on Mauna Kea shows the peak of Mauna Loa in the background and the general cloud cover a few thousand feet below. The high thin clouds tend to dissipate just after sunset.

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Sunset from the summit of Mauna Kea. The Japanese Subaru Telescope is at the left, and the NASA IR Telescope is at the right, with the sun setting just behind the northern-most of the two Keck Telescopes.

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main cloud layers in the background several thousand feet below the summit. The higher thin clouds tend to dissipate after sundown.

Our guides passed out boxed dinners which we ate at picnic tables near the Visitors Center. They also gave us hooded parkas and gloves for the trip to the summit and for the star party. As it turned out, it was not very cold the night we were there, but we were glad to have the parkas. This stop at the Visitor's Center also gave everyone a chance to get acclimated to the altitude.

After dinner we got back into the vans and drove up to the summit. We got there early enough to see the observatories before sunset. Although we were not able to go inside any of the domes, our guides gave us an overview of who the various observatories are operated by and what type of work might be done in each. One of our guides pointed out that many of the tour companies conduct tours in Japanese. The Subaru telescope shown at the left of the sunset photo was built and is operated by the National Astronomical Observatory of Japan, and Mauna Kea is a popular destination for Japanese tourists visiting Hawaii.

While we were there, we saw a couple of technicians setting up a Celestron C-8 with some unusual looking electronics attached to it. Apparently they use the small scope to check the cables used in some of the interferometry work between the big domes.

After our tour of the summit, we were treated to a spectacular sunset. The photo shows the Subaru observatory on the left with the NASA Infrared Telescope on the right with the sun setting just behind the northern-most of the two Keck Observatory Telescopes.

Shortly after sundown, we loaded back into our vans and went back down to the 9,000 foot level near the Visitors Center for a private star party with our guides, two Celestron GPS-11 scopes, and two van-loads

of visitors. The sky was a beautiful, and the tour guides were knowledgeable. The guides soon learned that they had a couple of amateur astronomers in the group, and we were soon discussing the differences between globular and open clusters, or the difference between planetary nebulae and a supernova remnants. What fun! We thoroughly enjoyed the experience.

For more information on the Mauna Kea observatories, see:

<http://www.ifa.hawaii.edu/mko/>

For information on tours, see:

<http://maunakea.com/>

or search for Mauna Kea Observatories tours.

Just Looking

A GuideStar Interview by Clayton L. Jeter

Dean Koenig—Starizona



I was watching the late news on Wednesday October 7th, 2009 and was pleasantly surprised to see a clip about a star party earlier that day at the White House! Not only did I see the president peep down into a Celestron CPC 800, but his wife and daughters did too. As it turned out, it was none other than Dean Koenig (owner of Starizona in Tucson) who attended the event and supplied two CPC1100 HyperStar equipped telescopes. Now there's an event that I wish I could have attended... memorable to say the least.



Dean is always busy at his shop supplying the astronomy community with his newest gadgets, cameras, and astronomy technology. I think you're really going to enjoy reading about Dean and his astronomy pursuits. Meet Dean Koenig...

The Dean Koenig Bio...

I'm a self proclaimed "AstroNut", and the founder and owner of Starizona, a premier retail astronomy shop. Starizona is a brick and mortar store located in Tucson Arizona. Tucson is often referred to as the Astronomy Capital of the World and is the home of the University of Arizona's Steward Observatory Mirror Lab. Tucson and the surrounding Southern Arizona communities can also boast themselves as the largest congregation of professional observatories in the World. I established Starizona in the city of Tuc-

son in 1994 for just those reasons. Starizona is recognized around the world today as an innovator of patented optical components. Specifically the HyperStar lens systems which are used to greatly enhance the imaging performance of off the shelf commercially available Schmidt-Cassegrain telescope systems. The HyperStar system can now be found in use at many major universities' astronomy departments in the country. Starizona also invented and produces the MicroTouch wired or wireless automatic focusing system which is used to precisely and automatically focus optical telescopes. The MicroTouch autofocuser is currently being used by NASA contractors during recent Shuttle launches. In addition, Starizona's newest offering to the Astronomy community is the Hyperion Astrograph telescope. The Hyperion currently boasts the most advanced optical mechanical and electronic telescope in its class. Each week Starizona actively promotes public education and outreach for young and old with four free telescope viewings of the night sky. They also host an award winning web site at www.starizona.com. In addition, we produce www.letstalkstars.com a weekly web base astronomy radio show hosted by the famous comet discoverer David H. Levy and his wife, Wendee Levy.

Dean and his wife Donna have celebrated thirty two years of happy marriage and are the parents of two daughters, Sarah 31 and Kristina 28, and one son Steven 26. Dean also is an active commercial, nature, and astro photographer.

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The Dean Koenig interview...

Clayton: How did you first become interested in astronomy?

Dean: As a youth I would lie down on the family station wagon hood and stare up into the night sky on annual family vacations to Colorado. My first view through a telescope was my younger brother's, Kris Koenig, 90mm refractor. Kris is now the owner and multiple award winning producer of InterStellar Studios. Whose latest production was the PBS special, "400 Years of the Telescope". By mid age it was my Biblical studies and the book of Job that turned it into a life long love, Psalm 19, "The heavens declare the Glory of God..."

Clayton: OK.... I got to know, how did you team up with the White House to set up your two Celestron telescopes for a star party there? Give us a run-down on how this all came to be. Did President Obama and his family genuinely seem interested in amateur astronomy? What did they observe?

Dean: It was an honor to be at our nation's capital and to have been granted the privilege to walk on the grounds of the White House lawns. The opportunity came about by my brother Kris. Who was invited to show his newest movie, "400 Years of the Telescope", as the rainy day back up to the White House Star party. Kris informed the Office of the First Lady as to the amazing ability of HyperStar to show deep sky objects in color within seconds under very severely light polluted skies. In the irony and political confusion my brother was cut and I was included. I was able to share my responsibilities with Anita Ingrao of InterStellar Studios who operated one of the two HyperStar adapted CPC1100 telescopes. One of the two telescopes now named Potus, which now resides in the observatory of the famous comet discoverer David Levy. There where, I believe, 21 other amateurs there, with telescopes of all types and sizes. The event was put on by NASA and supported by NOAO by request from the office of the First Lady. We were visited by 150 middle school aged students from local schools in the area. It was fun helping them take their first astro photo. Its was humorous watching them take a picture then whipping out their cell phone and snapping the image off the computer monitor.

Clayton: I love the concept of you're and Celestron's corrector plate mounted camera system. What's the big difference between your "HyperStar" and Celestron's original "Fastar" telescope camera system?

Dean: The major differences are our system is faster optically. Hence the term "Hyper". It also yields a larger and better corrected field. It is quite amazing to see full color images appear

on your laptop down to 17th magnitude in about 10 seconds. My greatest enjoyment is hearing the first light / first night comments from new customers. Who capture beautiful images the first night out. It is so fast that most do not use equatorial set ups or guide cameras. It is basically point and shoot astro-photography.

Clayton: What are the +s and -s of the corrector plate mounted camera system? Will we see more of this setup at star parties in the future?

Dean: Well, there really is not anything easier that delivers the quality that the HyperStar can. The only draw back is the sleep you will gladly give up for just one more quick image... or, did I say just one more just one more. With the ever increasing encroachment of light pollution HyperStar gives the night sky back to the enthusiast without breaking the bank or requiring long excursions from home.



HyperStar equipped telescope

Clayton: Where is most of your observing performed? Do you have a home observatory?

Dean: Most is from the Starizona shop four nights a week. Imagers and star gazers come from all over the World to hang out, learn the HyperStar system, checked out new equipment or test a new piece of optical hardware. Much of my observing time is spent collimating and testing Hyperion tele-

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scopes before they are shipped out.

Clayton: Do you remember peeping down into that first telescope and using the "Wow" word? Remember what the first object was?

Dean: Yes, it was my brother Kris' telescope and we were looking at a comet. I think it might have been comet West in 1976.

Clayton: Is the Schmidt Cassegrain your favorite design telescope? What are your thoughts about this design?

Dean: A Schmidt Cassegrain is a great telescope for the money. It has many things going for it, which includes aperture, portability and now computerized pointing. Probably my most often recommended telescope.

Clayton: Do you have an amateur observing mentor?

Dean: Closest mentor would be my dear friend David Levy.

Clayton: Have you a favorite star party that you attend regularly? Are there others?

Dean: Starizona's got pretty good ones every other night.

Clayton: How do you envision amateur astronomy in the next 10 years? Got any new gizmos on the drawing board... or is this still a secret?

Dean: Always got new stuff in the works but got to keep them under wraps.

Clayton: Do you have any helpful advice to pass on to observers just starting out in astronomy? What do you tell your new customers?

Dean: Keep it simple and have fun. Bigger doesn't always mean better. We have a great beginners section on our web site - <http://starizona.com/acb/basics/index.aspx>

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

Dean: dean@starizona.com

Clayton: Thanks Dean 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 and of course great luck with your company. Please come visit our society when in the Houston area, we'd love to see you.

Clear skies always!

Dean: My pleasure. Please help me stop photon waste :)

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

[UH Clear Lake to Offer Class](#)

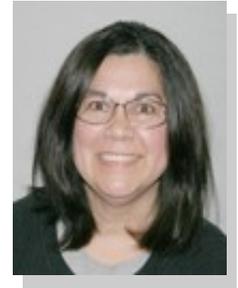
The University of Houston Clear Lake is offering a new course this fall on Astronomical Techniques and Observational Astronomy. This course will be offered at both the undergraduate and graduate levels.

ASTR 5931/PHYS 4011 Astronomical Techniques & Observational Astronomy - is a new course being taught by our new Visiting Assistant Professor Dr. David Talent. This course will be an introduction and survey of astronomical data acquisition and processing techniques including: digital imaging, photometry, spectroscopy ... etc. There would be a particular emphasis on quantitative digital imaging. There are a number of free or cheap image processing downloads available. The class will be held on Wednesday evenings from 8-11pm.

Society Update

Minutes of the Houston Astronomical Society

By Rene Gedaly, HAS Secretary



Call to order.

Ken Miller, HAS president, opened the general membership meeting at 8:00 pm, August 6, 2010, and welcomed all visitors and new members joining that night, remarking on the great turnout.

Telescope loaner program.

Bram Weisman, loaner telescope chair, covered the loaner program, open to those who have been society members for at least two months, and displayed a number of telescopes, including the club's tabletop Dobsonian, the 5" equatorial mount, and the Celestron NexStar 6SE GoTo. The Coronado PST solar telescope is in high demand of late and consequently has a check out period of one month instead of the usual two. See the telescope loaner link on the website for more information about the telescopes in our collection. Then contact Bram at loanerscopes@astronomyhouston.org to arrange checking out the scope of your choice.

AL observing club awards

Amelia Goldberg, chair of the southwest region of the Astronomical League, presented the League's Globular Cluster Observing Club Certificate #155 and pin to Clayton Jeter for observing 50 of the finest globes in the heavens. Congrats, Clayton!

Observatory fund raising

Bob Rogers, observatory committee chair, gave a presentation on the fund raising needs of the observatory. Expenses for the near future include \$1300 to remove five trees that must be taken down by professionals due to their location; \$2000 to replace the north fence, which the county will remove, provide fill dirt for and grade at no expense, but that we will need to cart off; and \$4000 for a John Deere Eztrack X245 Zero-Turn mower. A serious mower is needed because it must be able to cut hay, not grass. John Deere was selected because of the easy pick up and drop off for maintenance that the dealer in Weimer provides as opposed to purchasing another brand that we would have to haul back and forth from Houston. Funds must be raised to cover this additional \$7300 in expenses. Bob proposes we raise this money over the next two to three years by asking the membership for help with direct contributions, encouraging members to ask their companies for corporate donations, and by charging \$5 per plate of food at the All Club Star Parties held at the HAS observatory throughout the year. A

plate constitutes a hamburger, hot dog, chips, drink and dessert. Food at our annual picnic remains free, a benefit of membership in HAS. For complete details of this important project, be sure to look at Bob's presentation on <http://www.livestream.com/has2010/>.

Send donations to HAS....

...at PO Box 20332, Houston, TX 77225-0332. Please put "observatory donation" in the notes field of your check.

Nominations.

Ken Miller announced that it is time to nominate people to run the club for 2011. If you are interested in becoming an officer, board member, or committee chair, just get with Ken or any board member to nominate yourself or someone else. The board meets quarterly at the Houston Chronicle building downtown. Elections are held in November.

June 2010 board meeting

Ken Miller announced that the Livestream video of the general meetings, now in its second month, will not be posted live, but instead will be posted after editing to reflect the way we want HAS to be represented. Videos of the novice and general membership meetings are available at <http://www.livestream.com/has2010/>.

Ken also acknowledged the hard work of Judy Dye in planning the annual banquet. Unfortunately we did not get the turnout needed so we will not have a formal banquet this year. This would not prevent

(Continued on page 14)

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. A request has already been submitted via the Night Sky Network and the Greater Houston Astronomical Coalition. One of the coordinators from the GHAC will be setting up the event.

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.com.

(Continued from page 13)

the membership from getting together more casually over dinner or for dinner with a speaker, however.

Comet report.

Justin McCollum, Professor Comet and novice chair, reported that summer comets 10P/Tempel 2 and 2009/K5 McNaught are visible in the Northern night sky at magnitudes 9 and 10 respectively. Comet 2P/Encke is also visible, but only in the southern hemisphere this year. The full comet report is available on astronomyhouston.org in a redesigned format. Looks great, Justin.

What to look for in your GuideStar

Bill Pellerin, award-winning editor of the *GuideStar*, walked the membership through the August issue. Appearing in every issue is a speaker announcement for the coming membership meeting, an event calendar, and contact info for the board, committee chairs and advisors. Regular columns in the *GuideStar* include *Observations of the editor*; the column for August covered Astronomy on Twitter. Bill also provides other content such as articles on shallow sky objects for the month. Rene Gedaly provides minutes for the quarterly board and monthly membership meetings in the *Society Update*. In his *Just Looking* column, Clayton Jeter interviews notable folks involved in some aspect of astronomy. Clayton also submits to the Astronomical League *Reflector*. Bob Rogers keeps us informed with his *Observatory Corner*, and each month Bill publishes the *NASA Space Place*.

Want to write a column?

...or a one-time submission for the *GuideStar*? Bill reminds all that

with the pdf format, we can have as many articles as we want; no weight restrictions!

Award for best sketch.

At the novice meeting, Scott Mitchell presented part two of his workshop on astronomical sketching using Comet Hale-Bopp as the model. At the general membership meeting, Scott awarded Elizabeth Spangler with a log book decorated with a vintage representation of the zodiac for her best-in-class sketch.

August speaker, Dr. Aaron Clevenson.

Steve Goldberg introduced Dr. Aaron Clevenson, professor of astronomy at Lonestar College, chief astronomer at the Administaff observatory, very active in the Astronomical League and in the North Houston Astronomy Club (NHAC), and NASA solar system ambassador. Professor Clevenson spoke on *Cassini: The Spacecraft*. If you missed it, be sure to view the August 2010 video of this very interesting talk at

<http://www.livestream.com/has2010/>.

Observatory Corner

By Bob Rogers, Observatory Chairman

.....

Hello everyone.

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 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 maintenance of the riding mower, work on 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, iced 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, away from city lights, that everyone can use. It costs money every year to keep the site maintained for your use and pleasure. So far we have around \$300.00 donated and I that those that have 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 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 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

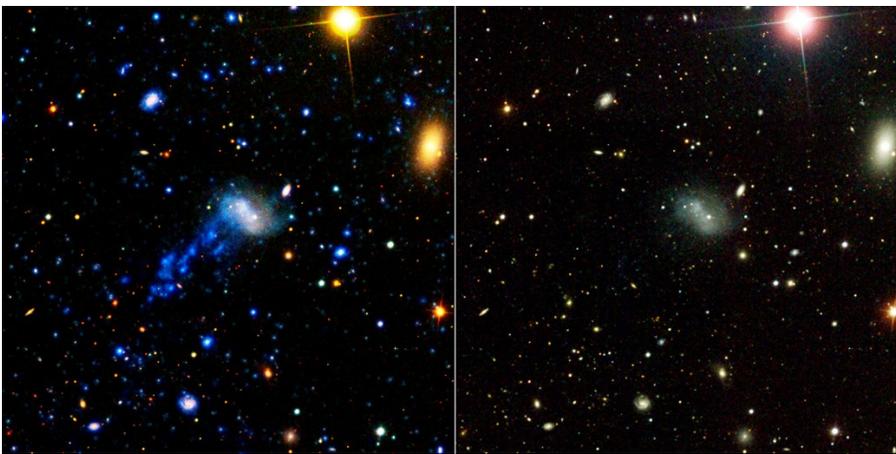
The Turbulent Tale of a Tiny Galaxy

By Trudy Bell and Dr. Tony Phillips

NASA Space Place

Next time you hike in the woods, pause at a babbling stream. Watch carefully how the water flows around rocks. After piling up in curved waves on the upstream side, like the bow wave in front of a motorboat, the water speeds around the rock, spilling into a riotous, turbulent wake downstream. Lightweight leaves or grass blades can get trapped in the wake, swirling round and round in little eddy currents that collect debris.

Astronomers have found something similar happening in the turbulent wake of a tiny galaxy that is plunging into a cluster of 1,500 galaxies in the



In the ultraviolet image on the left, from the Galaxy Evolution Explorer, galaxy IC 3418 leaves a turbulent star forming region in its wake. In the visible light image on the right (from the Sloan Digital Sky Survey), the wake with its new stars is not apparent.

constellation Virgo. In this case, however, instead of collecting grass and leaves, eddy currents in the little galaxy's tail seem to be gathering gaseous material to make new stars.

"It's a fascinating case of turbulence [rather than gravity] trapping the gas, allowing it to become dense enough to form stars," says Janice A. Hester of the California Institute of Technology in Pasadena.

The tell-tale galaxy, designated IC 3418, is only a hundredth the size of the Milky Way and hardly stands out in visible light images of the busy Virgo Cluster. Astronomers realized it was interesting, however, when they looked at it using NASA's Galaxy Evolution Explorer satellite. "Ultraviolet images from the Galaxy Evolution Explorer revealed a long tail filled with clusters of massive, young stars," explains Hester.

Galaxies with spectacular tails have been seen before. Usually they are behemoths—large spiral galaxies colliding with one another in the crowded environment of a busy cluster. Tidal forces during the collision pull gas and stars of all ages out of these massive galaxies to form long tails. But in IC 3418,

the tail has just young stars. No old stars.

"The lack of older stars was one tip-off that IC 3418's tail isn't tidal," says Hester. "Something else must be responsible for these stars"

Hester and eight coauthors published their findings in the June 10, 2010, issue of *The*

Astrophysical Journal Letters. The team described the following scenario: IC 3418 is speeding toward the center of the Virgo cluster at 1,000 kilometers per second. The space between cluster galaxies is not empty; it is filled with a gaseous atmosphere of diffuse, hot hydrogen. Thus, like a bicyclist coasting downhill feels wind even on a calm day, IC 3418 experiences "a stiff wind" that sweeps interstellar gas right out of the little galaxy, said Hester—gas that trails far behind its galaxy in a choppy, twisting wake akin to the wake downstream of the rock in the babbling brook. Eddy currents swirling in the turbulent wake trap the gas, allowing it to become dense enough to form stars.

"Astronomers have long debated the importance of gravity vs. turbulence in star formation," Hester noted. "In IC 3418's tail, it's ALL turbulence."

To many astronomers, that's a surprising tale indeed.

See other surprising UV images from the Galaxy Evolution Explorer at <http://www.galex.caltech.edu>. Kids (and grownups) can play the challenging new Photon Pileup game at <http://spaceplace.nasa.gov/en/kids/galex/photon/>.

Shallow Sky Object of the Month

Polaris— North Star—A F Star

By Bill Pellerin, GuideStar Editor

Object: Polaris

Class: Star

Magnitude: 1.97

R.A.: 02h 31m 49s

Dec: 89 degrees 15m 51s

Constellation: Ursa Minor

Size/Spectral: F

Distance: 425 ly

Optics needed: unaided eye

Why this object is interesting

In the scheme of star colors (OBAFGKM), Polaris is a F star. F stars are considered to be 'white', with hotter stars, nearer O, are considered 'blue', and cooler stars, nearer M, are considered 'red'. For the last few 'Shallow Sky' articles I've identified O, B, and A stars, so this is the next step in the range of colors.

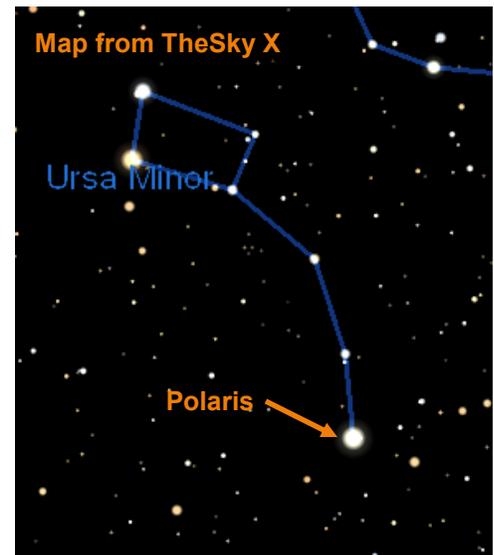
About 3 in 100 stars is a F star, much more common than the O, B, and A stars and less common than the redder stars.

Lots of people think that Polaris is a bright star, and some think it's the brightest star in the sky. Nope. Polaris is a 2nd magnitude star and ranks 41st in brightness of all the stars in the sky. So, if you want to see what a second magnitude star looks like, look at Polaris.

It's easy to find — at the end of the handle of the Little Dipper and pointed to by the end-of-the-bowl stars of the Big Dipper. Draw a line from Merak, through Dubhe and you will end up at Polaris.

Another thing. It's not exactly at the north celestial pole. It is .7 degrees away (see the RA and Dec above). There's more. Polaris was not always and will not always be the star closest to the north celestial pole. The Earth wobbles on its axis, like a top that's slowing down. It takes 26,000 years for one complete wobble, but over that interval the star nearest the celestial pole will at one time be Vega.

As a star that was used for navigation, if you know the height of the sky above the northern horizon, you know your latitude. Knowing your longitude is a more complicated problem.



Polaris is also a double star. The secondary star is 18.3 arc-seconds from the primary and shines at magnitude 9. You'll need a telescope with good optics to see this star, but I've seen it several times, and it's not difficult.

Wait! There's more. Polaris is a Cepheid variable star, but you shouldn't expect Polaris to get noticeably dimmer (or brighter) as you watch it. The problem is that Polaris only varies in magnitude by .03 magnitudes over 3.97 days.

If you are equipped to make very good photometric measurements you may be able to see the variation.

Polaris has several uses for us amateurs. Those of us who have equatorial telescope mounts use Polaris to do an initial polar alignment, and for many uses, this is good enough. Another good use of Polaris is for testing and aligning optics. Why? Because it moves very slowly in the sky, so you don't have to move the telescope to chase the star.

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.

Editing & Production: Bill Pellerin,

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, September 3

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.