



AUGUST 2019

Volume XIX Number 8

(Celebrating our 20th Year!)

OBSERVE - LEARN - SHARE

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Upcoming Events	
August 23	Monthly Meeting Lone Star College - Kingwood
August 31	Star Party - O'Brien Dark Site
September 6	Public Night Insperty Observatory
September 27	Monthly Meeting Lone Star College - Kingwood
September 28	Star Party - O'Brien Dark Site

MONTHLY MEETING

August 23, 2019

NOVICE SESSION (6:30 P.M.....Room CLA 221.....Lone Star College - Kingwood)



"Going the Milky Way"

Presented by Bruce Pollard, NHAC Vice President

Bruce will discuss our home galaxy; its formation, its present state and the future.

GENERAL MEETING (7:30 P.M.....Room CLA 112...Lone Star College - Kingwood)



"Light Pollution"

Presented by George Roffe, NHAC, Willis Friends of Dark Skies (founder)

George will discuss the already bad, and worsening, problem of light pollution and what we can do about it.

CLUB NEWS

- **NHAC 2020 Calendar Photo Submission Request:** We're looking for 14 astro-photos for the 2020 club calendar. Please send yours to michaelcomeaux@hotmail.com by the end of August. Send whatever file type you have saved them in, although jpg is preferred.

In conjunction with NASA, the Astronomical League created a new NASA Observing Challenge Award to commemorate the 50th anniversary of the Apollo landings on the Moon. Participants may either image or observe and sketch the six Apollo landing sites, and do an outreach event related to the Apollo Missions. **DEADLINE FOR SUBMISSION FOR THE APOLLO PROGRAM IS AUGUST 31, 2019.**

The League has also created three **NEW** observing opportunities:

- **Planetary Transit: Mercury 2019 Special Observing Award (2 transits in November 2019!!)**
- **Spectroscopy Observing Program**
- **Multiple Star Observing Program**

Learn more about these programs at the [Astronomical League Website](#).

The NHAC Astronomical League Coordinator is Dr. Aaron Clevenson. He can be contacted at aaron@clevenson.org.



Dr. Bruce Pollard, PhD, NHAC, is our expert in spectroscopy and is a very effective teacher. If you would like some hands-on learning, contact Dr. Pollard. An introductory manual by Ken M. Harrison, "Grating Spectroscopes and How to Use Them", is available on Amazon. It is detailed, and full of good information.

We welcome news, photos, comments and contributions for North Star, the NHAC newsletter. Please send them to newsletter@astronomyclub.org by the 10th of each month.

The latest issue of "What's Up, Doc" by Dr. Aaron Clevenson is at [What's Up, Doc?](#)

GALLERY

Image by Steven Weichert, NHAC:

“The Trifid Nebula (M20) is an interesting combination of red emission nebula, blue reflection nebula and dark nebula and somewhat resembles a celestial fireworks display. The Trifid is located in Sagittarius and is about 4000 ly away. This image was taken from my front yard in Montgomery, TX with a Celestron 8 EdgeHD and ZWO ASI294MC Pro camera. Total integration time was three hours in two minute subs.”



Photo by Jesse Roberts, NHAC:

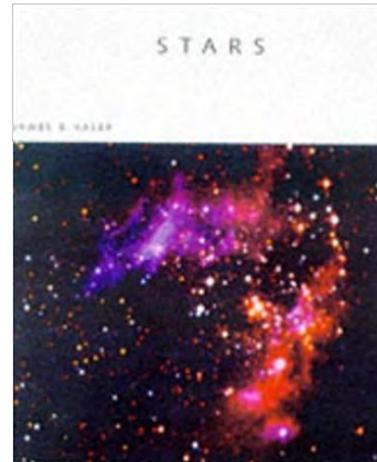
“The sky was predicted to be clear on the night of July 7 so I went out to the NHAC dark site. It actually turned out to be mostly cloudy and then a rain shower made it a very short observing session. Just after sunset the sky was really dramatic, with the dark land surface and the illuminated cloud tops. I was clicking off frequent shots hoping for lightning flashes. I didn’t catch any lightning but did get Jupiter, which is the bright dot in the gray clouds just left of center.”

BOOK REVIEW

“Stars” by James B. Kaler

*Scientific American Library Book,
Published by W.H. Freeman*

Review by K. Drake, NHAC



In the mid-90s, I had the opportunity to meet and observe with Dr. James Kaler, Professor of Astronomy at University of Illinois. It was at the Okie-Tex Star Party near Ardmore, Oklahoma where I remember how he was shocked that amateur sized telescopes could be used to view stars, galaxies and nebulae that professionals studied. It was in Larry Mitchell’s 24 inch Dobsonian that he was able to see Einstein’s Cross (Huchra’s Lens) at a distance of 8 billion light years.

A few years ago, I picked up a copy of Kaler’s revised (1998) “Stars” first published in 1992. I would list this book as an excellent introduction to all things stellar for those generally interested in the subject. The coverage is complete and concise with incredible clarity for all levels of amateur astronomers and lay people alike. All of the illustrations, diagrams and pictures are extremely well done and follow the text closely so the reader doesn’t find themselves flipping pages to follow along. Kaler begins with the ancient observations, sky lore and then proceeds to explaining sky motion. He describes the naming conventions both historical and modern, the tools we use to study them and then discusses the what & where of stars (spectra, HR diagrams, distances & chemistry). He shows how studying our closest star can enhance our understanding of others at great distances.

Keeping the discussion at a level even I can understand, he fully and completely covers neutrinos, stars low masses, aging, temperatures & binaries. Kaler covers the lives and deaths of high mass stars, novae, supernovae, their remnants, pulsars and neutron stars as well as black holes. He does this all in a way that is very thorough and at the same time easily understood.

He eventually gets off into a bit of cosmology and the dilemmas still facing astronomers today in a very understandable manner. He finally tosses out the "Are We Alone" question. I generally lose interest at that point since I believe we are unique and that the chance is just too remote.

The appendices in Kaler's book are excellent: Ancient Constellations, Modern Constellations, 40 Brightest Stars by Magnitude, Constellation Maps, and though outdated, a list of The Largest Telescopes.

Again, I highly recommend it to all levels of readers and give it a 9.5/10. \$25 hardcover @AMZN, \$2 used paper.

STAR PARTY

Star Party on August 31, 2019

By Rusty Hill, NHAC:

But first here is a game for you: In order to find the sky chart for 9 P.M. on August 31, what date and time on cleardarksky.com do I need to look up? Hint: cleardarksky uses UTC time. (Part of the challenge is to know what "UTC Time" is.) Next month I will give the answer.

Many of my favorite objects are easily found this time of year. Sundown is close to 8:00, and by 9 P.M. it will be nicely dark.

In the Solar System the moon will be very thin, on the Western Horizon, just about to set. It will be a challenge to see. The big bright "star" to the South-Southwest is Jupiter, and to its east there is Saturn. Just to the east of Saturn there is Pluto, which demands pretty good optics to see. Further east Neptune is at the northeast corner of Aquarius, which is mythologically appropriate. (Another question: Why?)

To the South, Sagittarius and Scorpio will be easily seen. Scorpio is the home of M-4, easily found with a small scope. It also has 2 unaided eye visible objects, M-6 and M-7, near the stinger. And in Sagittarius there are several Messier objects which can be easily found with a small scope. Straight overhead is Lyra, with M-57, the Ring Nebula. Just to the west is Hercules with M-13, very easily seen. Further west is Corona Borealis, a pretty half circle of stars.

Beyond Corona Borealis is Bootes, with its orange giant star Arcturus. Continuing West is Coma Berenices, with M-53 as well as several other Messier objects.

Proceeding the other direction, to the east from Lyra, we find Cygnus, a very recognizable constellation. This is The Swan, with the appearance of an elongated cross. The northeastern part is the tail, the crossbar is the (pair of) wings, and the long part of the cross extending to the south is the neck and head. Once you have seen it you will always be able to recognize it. The southernmost star is Albireo, a pretty double star of different colors.

DARK SITE INFORMATION

If you are new to the club, Star Parties are especially for you. We, the members, are the reason we have observing Star Parties, and they are great occasions to get familiar with observing. We have 10" Dobsonian telescopes available at the Dark Site for your use. There will also be several other scopes available for all to try. And do bring a Binocular-- you can do lots of successful observing with nothing more.

NHAC Club Policy is that the focus of the Star Parties will be to give as much assistance as possible to new observers. For those who may not have been to the O'Brien Dark Site, it is just north of Dobbin, which is on Highway 105 west of Montgomery. It has reasonably dark skies and a great low horizon in all directions. The Owners, Tim and Wanda O'Brien, are very generous hosts, and they do turn off any outside lights which might bother us, if we remember to ask.

The specific Dark Site location is password protected. Any club officer can give you the password, but it is NOT FOR THE GENERAL PUBLIC!

Access to the Dark Site must be requested from the O'Brien's in advance via the NHAC email. It is only necessary for any 1 member to request access-- Access approved for any of us is access approved for all of us.

On our NHAC web site, click on "Observing" then select "O'Brien Dark Site". Scroll down to the O'Brien Dark Site information and look for the "detailed directions" link. You will need to enter the password. There are maps as well as directions. It is well worth the drive, which is about 6 or 7 minutes driving time North of Dobbin off of State Highway 105 west of Montgomery.

Star Parties are routinely scheduled for the Saturday on, just before, or just after the New Moon throughout the year. This is to provide the best opportunity for dark skies.

INSPERITY OBSERVATORY



Public Night will be on Friday, September 6, 2019

Doors will be open by 7:30 P.M. and remain open to the public until 10:00. Sunset will be at 7:38 P.M. The waxing moon will be 60% illuminated and will be a good object for viewing through the Observatory scopes.

These Public Nights are a great opportunity for us to be a part of Astronomy Outreach, and also to observe with scopes we might never get to use, otherwise. The Observatory has a 6" Takahashi refractor, a 16" Meade Schmidt-Cassegrain, and a 20" Plane Wave telescope. Each is computer controlled, and provides an awesome view of the sky. There are usually about 75 to 100 guests, sometimes more, on Public Night, with many repeating. Our guests are very appreciative of the opportunity to enjoy the sky and also expose their kids to Astronomy. Then after all our guests have departed, several of us usually stay for a while and enjoy the views and each other's company. This can be an opportunity to see a new or favorite object in a large telescope.

The Observatory is about 3/4 of a mile south of Will Clayton Parkway on S. Houston Ave, just north of Rankin Road in Humble, in the back part of the Jack Fields Elementary School on the East side of S. Houston Ave. The address is:

Jack Fields Elementary School
2505 S. Houston Ave.
Humble, TX 77396

For more information, the Observatory phone number is 281-641-STAR and the web site is <https://www.humbleisd.net/observatory>.

Dates and times are subject to change.

ABOUT NHAC

The North Houston Astronomy Club (NHAC) is a not-for-profit organization established in 1999 for educational and scientific purposes, for people of all races, creeds, ethnic backgrounds and sex. Our primary purpose is to develop and implement programs to increase the awareness and knowledge of astronomy, especially for those living near the north side of Houston, Texas.

NHAC is dedicated to providing an opportunity for people to pursue the science of astronomy, to observe in a dark-sky site, to learn the latest technology, and to share their knowledge and experience, thus our "Observe-Learn-Share" motto.

Public meetings are normally held each month on the fourth Friday. In the months of October, November and December they are usually rescheduled for the third Friday of each month, so as to not conflict with the Annual All Clubs meeting, Thanksgiving, or Christmas.

The benefits for membership include:

- Loaner telescopes after being a member for 6 months.
- Opportunity to observe from dark sky observing sites.
- Learn from experienced observers.
- Astronomy Magazine subscriptions at a discount.
- Astronomical League membership, with its many observing programs.
- Subscription to the Astronomical League magazine "Reflector".
- Access to the NHAC library
- Discounts on purchases at Land, Sea and Sky. Be sure to identify yourself as an NHAC member.

More information at the [NHAC Website](#)

Check out our [Facebook page](#).

Our mailing address is:

North Houston Astronomy Club
Post Office Box 5043
Kingwood, TX 77335-5043

NHAC is sponsored by:



CALENDAR. MEMBERSHIP. OFFICERS

2019 NHAC General Calendar			
	New Moon	Star Party	General Meeting
August	Aug 30	Aug 31	Aug 23
September	Sept 28	Sept 28	Sept 27
October	Oct 27	Oct 26 (and BBQ)	Oct 25
November	Nov 26	Nov 23	Nov 15
December	Dec 25	Dec 28	Dec 13
Dates and times are subject to change. Star parties are weather permitting.			

Membership

Memberships run from January 1 through December 31.

Full year dues are:
 Students \$10
 Individuals \$30
 Family Groups \$40

Membership applications and dues payments can be made at the NHAC website at:
[NHAC Website](#)

2019 NHAC Executive Board

President	Carlos Gramajo - email
Vice-President	Bruce Pollard - email
Secretary	Mike Comeaux - email
Treasurer	Joana Tan - email
Newsletter Editor	Jesse Roberts - email
Astronomical League Coordinator	Aaron Clevenson - email
Webmaster	Justin McCollum - email
Observation Committee Chair	James Billings - email
Membership Committee Chair	David Dutschmann - email
Program Committee Chair	Open - email
Immediate Past President	Susan Pollard

AFFILIATIONS



NHAC is a proud member of:

The Astronomical League: <https://www.astroleague.org/>

Night Sky Network: <https://nightsky.jpl.nasa.gov/>

International Dark Sky Association: <https://www.darksky.org/>