



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

CAAC September 2023 Meeting

<p><u>Next Meeting:</u> Friday September 15th, 2023</p> <p><u>Time:</u> 7pm ET</p>	<p><u>Place:</u> <i>Myers Park Baptist Church Education Building – Shalom Hall (Basement) Or Zoom Virtual Meeting</i></p> <p><u>Address:</u> 1900 Queens Road Charlotte, NC 28207 <u>Or Zoom web conference link (See newsletter info below)</u></p>
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CAAC Show and Tell

This month is our Show and Tell main presentation. This is when our members bring something of interest to the meeting, and just like when you were in grade school, they show it to you and tell you something about it. Rick Bassham, Tom Blevins, Frank Wetherington, and Jim Gaiser as well as others who haven't yet committed will have things of interest to show and tell us about. Maybe some new equipment, new processes, or old stuff we forgot how to use.

Speaker: CAAC Members

CAAC Virtual Meeting Login Instructions

1. If you have not used Zoom before, go to Zoom.com and download the Zoom program onto your computer.
2. **To Log In:**

Click on the meeting link below:

<https://us06web.zoom.us/j/82489334922?pwd=dWRsdDFkMjJOWFVNUFIIN1IFL1NoQT09>

If needed Meeting ID: **824 8933 4922**

Passcode: **893125**

This manual “log in” rather than invitation to everyone prevents all the emails showing up on the invite. This is a security issue for your privacy.

3. When on the Zoom screen to prevent chaos and overloading bandwidth:
 - a. Mute your microphone-icon lower left of screen
 - b. Mute Video icon on the lower left of screen.
 - c. You will be able to see and hear leaders of the meeting when they are speaking
4. If you wish to ask questions of the speaker after the main presentation:
 - a. Submit on the chat feature which is at the bottom of the screen. You will then type out your question and hit enter.
5. Excellent Zoom tutorials are available on You Tube:
 - a. <https://www.youtube.com/user/ZoomMeetings>

From the President:

Greetings Friends,

With summer almost behind us, the wobbly legs of the fawns are no longer around...replaced by a new confidence...but only while the doe is nearby. So too for the amateur astronomer comes the confidence of the Milky Way in the early evening...with Scorpio leading the way. What a magnificent time of year!

“Show and Tell” has been a mainstay of the club for as long as I’ve been a member and I’m looking forward to sharing my own little tidbit and finding out what others in the club have been up to. Bring your latest astronomical acquisition (or a piece you think people would love to see) and tell us about it at the meeting on Friday.

Cosmic Camporee is just around the corner and I’m looking forward to good food and good friends gathering at GHRO for great memories and (hopefully) clear cool skies. Stay tuned as Rick Bassham, your Observatory Director, provides more details as the time approaches.

Clear skies,

Jim
President, CAAC

Secretary's Report:

1. September is the last month of the 2023 CAAC annual membership and the **2024 CAAC annual membership starts in October:**
 - Annual individual/family membership, which includes access to the CAAC dark sky [observatory](#) (GHRO) - \$60.00
 - Dues are collected at the October meeting and are pro-rated for members joining in January or later.
 - Students up to 18 years old - \$15.00 per year.
 - Private Observing Pads - additional \$25.00 per year.
Optional fee for members with private concrete observing pads at the club's dark sky location. Contact the Observatory Director for additional information.

Membership Applications are available through the CAAC Treasurer at monthly meetings. Click <https://charlotte-amateur-astronomers-club-2.square.site/> to navigate to the CAAC online store. Then select "CAAC Membership" to add it to your cart

2. October is also the month for **Cosmic Camporee!** Please see the GHRO Director's report for more information.
3. If you are a former CAAC member and have not been keeping up with your membership dues, firstly please come back! We'd love to reconnect you with the love of astronomy through our club, use of GHRO observatory, and the camaraderie of our members.

Please also remember to return your badges on the table near the exit at the end of the meeting before you leave! Doing this will significantly reduce the chances of badges getting lost and reduce the amount of time (and cost) of having to re-create your name tag if it is lost. Thank you!

4. Register with the **Night Sky Network!** It is imperative that all members of the CAAC join the Night Sky Network (NSN). Many of the club's outreach activities are managed by the NSN, as well as club communications (newsletters, event notifications, general email). The NSN is a wonderful tool specifically designed for amateur astronomy clubs like ours. Membership allows you to contact other members via email, and receive last minute updates for outreach events via text message:
http://nightsky.jpl.nasa.gov/club-apply.cfm?Club_ID=1468&ApplicantType=Member-Pre-Monthly
5. Are you looking for ways to participate in the club? We would appreciate volunteers for the following standing committees to better serve our members:
 - Room Set Up
 - Refreshments
 - Audio/ Video
 - Web Master/ Social Media. Please be on the lookout in the next couple of weeks for emails with more details and how to participate. Please contact the CAAC Officers and let us know which committee interests you. Thank you for your consideration.
6. The club is seeking participants for the Audit Committee. Additional information forthcoming.
7. The club is adding a new CAAC Astronomy Equipment Sales page to the newsletter. Please check out the offerings at the end of the newsletter.

8. Sign up for CAAC Slack / chat!

Chat with fellow astronomy and astrophotography enthusiasts on our discussion group. This is a free service, we are using the basic plan. See who's going to GHRO, ask questions, or just be sociable. You can access via webpage or native applications on all major platforms and mobile phones. Sign up, introduce yourself, talk to your peers, tell your stories, ask your questions, and share your wisdom!

How do I sign up?

- Visit this link: <http://slack.south40astro.com> or email caac-slack@jamieandamy.com

If you run into issues signing up, email Jamie at caac-slack@jamieandamy.com and he will help you get on the team.

9. Become a NASA Partner Eclipse Ambassador

In October 2023 and April 2024, two solar eclipses will be crisscrossing the US. In an exciting new NASA partnership, undergraduate students and eclipse enthusiasts will partner to engage their local communities in advance of the eclipses to enjoy the awe and wonder of this unique alignment. Eclipse Ambassadors will bring outreach programs to underserved audiences in local libraries, colleges, schools, and other community organizations. Training, partnerships, and resources are provided, and all engagement can be done before the eclipses - there's no commitment when the shadows arrive. Undergraduates will also receive a stipend, plus opportunities to further their involvement in NASA programs.

Apply today! www.eclipseambassadors.org

Find someone near you on our [Eclipse Ambassador Map](#)

We make it easy to share about the program:

[Share a Facebook Post](#) or share [NASA STEM's FB Post](#)

[Tweet about it!](#)

[Share it with colleagues on LinkedIn](#)

10. The CAAC website, <https://charlotteastronomers.org/> has been updated to provide better service to our members with easier navigation, up to date announcements and postings, and accessible communication. Please explore and enjoy your new CAAC website

My Do

CAAC Secretary

CAAC Treasurer's Report as of 8/31/2023

Operating Fund

Purpose: Enable the CAAC to pursue our non-profit goals, maintain our facilities, and run our programs.

*Funds are acquired through ongoing receipts of dues, fees, and annual Southern Star income (or expense).

*Funds are expended to meet operating obligations of the club.

1	Operating Fund Balance: 7/31/2023	\$31,575.70
2	Income: Dues and Fees Sale of club owned equipment	 \$75.00 \$140.00
3	Expenses: Monthly Meeting GHRO Utilities (alarm, elec, internet) CAAC annual insurance premium GHRO Facility Service fee to accept credit cards	 \$311.99 \$339.90 \$1,535.00 \$360.60 \$3.70
4	Operating Fund Balance: 8/31/2023	\$29,239.51

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

1	Non-Operating Fund Balance: 7/31/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,402.94
2	Income: Interest	 \$4.35
3	Expenses or Transfers:	\$0.00
4	Non-Operating Funds Balance: 8/31/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,407.29

Scott Goforth
CAAC Treasurer

News from GHRO

1. **SAVE THE DATE: Cosmic Camporee will be held Friday, October 13th to Sunday, October 15th.** Bring your family and friends out to GHRO for a weekend of stargazing and camping. Saturday afternoon we will grill hamburgers and hotdogs, as well as have a pot-luck for sides and desserts. This is a great opportunity to visit with other members and enjoy the night sky at GHRO.
2. To prepare for Cosmic Camporee, we will have a **GHRO work day October 7th**. Please reach out to help do some routine maintenance and deep cleaning of the facility.
3. The next **Star Party is Saturday, September 16th** beginning at dusk.
4. Scout Troop 146 will visit GHRO the weekend of September 23rd. Volunteers will be appreciated. Please reach out to Rick Bassham to volunteer.
5. Telescope training for new members (and those wishing to get a review) will be held on Saturday, September 23rd, beginning at 5:30 PM. This training is required for all new members who wish to use the facilities at GHRO. The training will take place even if it is cloudy, it will be canceled only if it is actively raining or snowing. If it's clear, you can practice your newfound skills immediately after the training. To sign up please contact Rick Bassham.
6. When observing at GHRO please ensure you minimize the amount of light you produce. Especially for imagers, **please take care to hide lights from your equipment and computers**. Plastic bins are available for use to put your laptop in.
7. Please follow the posted startup and shutdown procedures for any club owned scopes. This helps other members when they go to use our equipment.
8. Don't forget that the current sky conditions and weather and the Clear Sky Clock is found at the bottom of our homepage... <https://charlotteastronomers.org/>
9. The new telescope storage building near the all members pad is available for rent. The fee is \$10/month for a 3'x3' spot inside, with a 6 month minimum commitment. There are nine spots available. Users are encouraged to have their contents insured, as CAAC will not be insuring the contents of the building. Please see Rick Bassham if you have any questions.
10. A new state of the art imaging observatory has been constructed and contains a Planewave 12.5" CDK telescope on a Planewave L-350 mount. This roll-off-roof facility is available for all members of the club who get training, and it is operated from inside the Outreach Center. The telescope now has first light. Please contact Rick Bassham at ghro@charlotteastronomers.org to learn how to use it. As a primer, if you are new to astrophotography, check out the [NINA tutorial by Everyday Astro on YouTube](#). A special thank you to Dr. Jim Hermann for his generous donations.
11. Construction on the new solar panels will begin on September 18th. Expected construction time is 2 to 3 days.
12. Anyone interested in the "Sponsor a Telescope" program, please reach out. My vision on this is to pair up CAAC members who want to learn more about a particular club owned telescope and/or help pass on the knowledge and history of our club scopes. There would be no monetary

commitment involved, only some time. Ideally we would have two members sponsor each telescope. Sponsors would be responsible for checking their telescope once a quarter and working with the observatory director to address any required maintenance or repairs needed. You would also be expected to attend a new-member training event once a quarter to help pass on your knowledge of the history and operation of the scope. As our club grows, maintenance and knowledge transfers become much more difficult to be done by just one person. If you are interested, please reach out to Rick Bassham (ghro@charlotteastronomers.org).

13. Anyone interested in helping out with grounds maintenance, please contact Rick Bassham. It currently takes about 5 hours for one person to mow and trim the full grounds, and any help would be appreciated. Special thanks to Dale Poole for doing a lot of mowing at GHRO.

14. The complete GHRO calendar for 2023 is below:

2023 Star Party and Training Schedule

Month	Star Party Date	Moon Illumination	Training Date	Training Start Time (PM)
January	21	1%	28	4:30
February	18	5%	25	5:00
March	18	15% waning	25	6:00
April	22	7%	15	6:00
May	20	1%	13	6:30
June	17	1%	24	6:30
July	15	5%	22	6:30
August	19	9% waxing	26	6:30
September	16	2%	23	5:30
October	14	1%	21	5:30
November	11	4%	18	4:30
December	9	14% waning	No training in December	

Rick Bassham
CAAC Observatory Director

GHRO Information

GHRO is located at [1427 Bloomwood Drive, Lancaster, SC](#). (some GPS show city as Pageland). Gravel road leading to the observatory is located 5.22 miles east of the "522 Grill" on Taxahaw, Rd.

Facebook FAQ

<https://www.facebook.com/CharlotteAstronomers/> scroll down to NOTES, then Frequently Asked Questions page for more information about GHRO. Be sure to share your astronomy photos and observing tips.

Night Sky Network -- "Heading to GHRO"

For updates on GHRO, be sure to join the <https://nightsky.jpl.nasa.gov/index.cfm> "Heading to GHRO" message group.

As always, we care about the safety and security of all visitors to our observing facility, the GHRO. To keep us all mindful for the need to keep alert while visiting the observatory, we provide the following reminder. Please share this with your family and any visitors who may join you at the observatory. Thank you.

***** WARNING *****

This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

By using this facility, users assume the risk of personal injury, and loss or damage to personal property. All persons should use extreme caution at all times.

Users of this facility agree to hold harmless the Charlotte Amateur Astronomers Club, its Directors, and its members for any and all injuries sustained while participating in club activities or using this facility.

CAAC Outreach Opportunities

Since last meeting:

8/24 Providence Rotary Club presentation: "James Webb Space Telescope".

Scheduled:

10/7 Matthews Library Presentation: "Cosmic Perspective".

10/26 Charlotte Mecklenburg Library- Independence Regional Library, Solar Presentation and Solar Viewing, 2:30 PM
- Solar Telescopes needed, 2:30 PM.

10/30 Shepherd Learning Center presentation: "Cosmic Perspective".

On Deck:

11/7 Piedmont Club Presentation: "James Webb Space Telescope".

11/20 Southminster Retirement Community presentation: "Cosmic Perspective".

TBD Catawba Lands Conservancy Star Party, Mount Pleasant, NC.

Ken Steiner
CAAC Public Outreach Coordinator

New! CAAC Astronomy Ad Listings

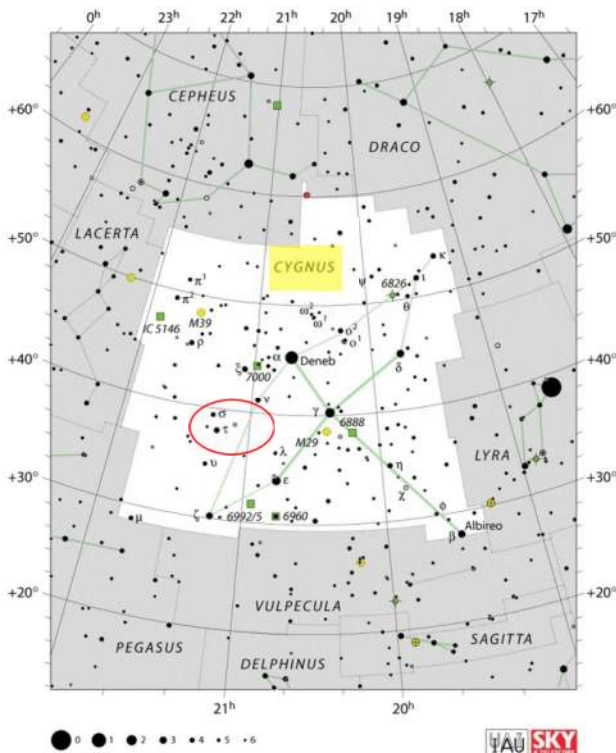
We are excited to add an astronomy classifieds section to our newsletter. If you would like to post an ad in the newsletter, please let us know at the beginning of each month and we will list your items. Please provide a brief description and your contact information. David Friday is the lucky first advertiser in the July 2023 newsletter.

Item 23-001: *1958 Criterion Newtonian reflector*, 6" f/8 for sale with original mount.
Asking \$600 with free delivery within the Charlotte area.
- David Friday, wdfriday@twc.com 704-579-1778.

Item 23-002: *New SkyQuest Intelliscope XT8*. List Price \$ 1,300.00.
All manuals with it-including initial purchase paperwork
- **Make An Offer.**
- Contact Jim Gaiser



The Night Sky in September 2023

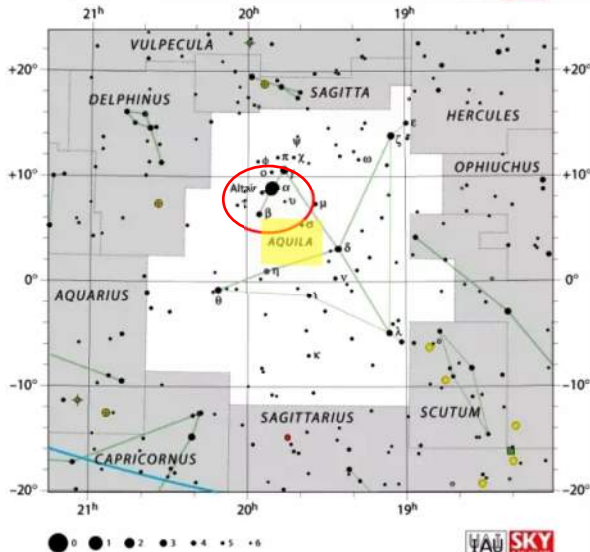
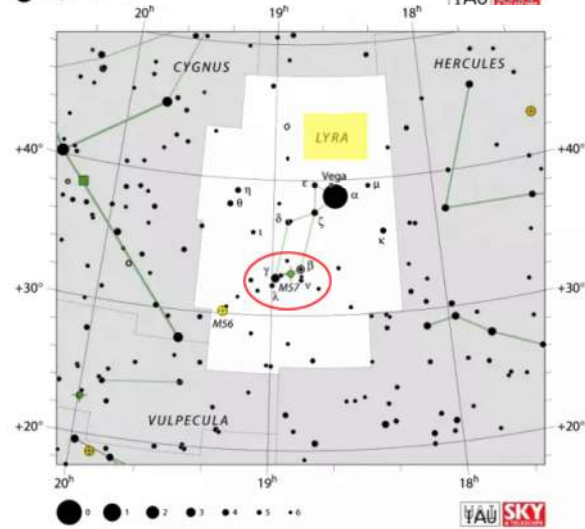


High overhead on early fall evenings, in a busy region of the Milky Way near Deneb, is a rather ordinary double star. With a small telescope at 60x you will see **61 Cygni** as a bright warm white primary with a slightly dimmer secondary, also warm white, lying about 30" to the south-southeast. **61 Cygni** is more interesting for another of its characteristics. Like Barnard's Star, **61 Cygni** has an unusually high proper motion, causing it to move visibly against the more distant stellar background over the course of relatively few years. At present, **61 Cygni** has a proper motion of more than 5" per year. Since 1838, **61 Cygni** also holds a grand place in astronomical history. That year, it became the first star to have its parallax measured. Using the Fraunhofer heliometer at Königsberg Observatory, German astronomer Friedrich Wilhelm Bessel determined that **61 Cygni** has a parallax of 0.31" (very close to the modern value of 0.29"), implying that the star was 10.3 light years from Earth (today's accepted value is 11.41 light years). The Royal Astronomical Society awarded him its Gold Medal for this achievement, which marked the first step towards accurately measuring stellar distances.

Despite their name, planetary nebulae have absolutely nothing to do with planets. They got their name because early observers thought they resembled the disks of Uranus and Neptune. The best-known planetary nebula is the **Ring Nebula M57**, easily found about halfway between Beta and Gamma Lyrae. This celestial smoke ring roughly 500 times the diameter of our solar system was discovered by the French astronomer Antoine Darquier, only a few days before Charles Messier. He described it as a "perfectly outlined disk as large as Jupiter, but dull in light and looking like a fading planet". This comparison to a planet may have influenced William Herschel who found that the object resembles the planet newly discovered by him, Uranus, and introduced the name "Planetary Nebulae". Small telescopes show **M57** as a faint hazy spot, slightly larger than the disk of Jupiter. Apertures of at least 4 inches are needed to discern its ring shape and its elliptical outline.

Altair, Alpha Aquilae (α Aql), is a white main sequence star located at a distance of 16.73 light years from Earth in the constellation Aquila, the Eagle. With an apparent magnitude of 0.76, it is the brightest star in Aquila and the 12th brightest star in the sky. **Altair** is a very fast spinner. With a rotational velocity of about 242 km/s, it is the fastest rotating star within 10 parsecs of the Sun. It spins at about 60.5% of its estimated breakup speed (400 km/s). The star has a rotation period of only 7.7 hours. In comparison, the Sun's rotation period is a little more than 25 days.

Cygnus, Lyra, and Aquila Constellation Maps courtesy of IAU and Sky&Telescope, <https://www.constellation-guide.com/constellation-map/northern-constellations/>



The bright stars Deneb, Vega, and Altair respectively in the constellations Cygnus, Lyra, and Aquila form the Summer Triangle. To find more information about the Summer Triangle, constellations, and deep sky objects, please visit: <http://www.nightskyinfo.com/objects/>

September has several astronomical events to delight the sky observers:

- The autumnal equinox occurs on September 23rd at 2:50 a.m. EDT marking the beginning of Fall in the Northern Hemisphere and Spring in the Southern Hemisphere.
- The full moon following the autumnal equinox is called the Harvest Moon, which takes place on Friday, September 29, 2023 at 5:57 AM EDT.
- Watch for the parade of planets lead by Saturn rising after sunset in the evening and later followed by Jupiter.

If you would like to download a map of each month's night sky, use this link, <https://www.skymaps.com/skymaps/tesmn2308.pdf> to download, print, and navigate the Evening Sky Map.

We welcome and encourage our CAAC members to come and visit the **GHRO Observatory** to enjoy, learn, and observe the celestial wonders.

An *ENHANCED* Star Atlas – FREE!

Our CAAC member, Mark Hoecker, has used the *Mag 7 Star Atlas – Color Milky Way version* (available on the internet) and added some enhancements including:

- A star map index to quickly identify the individual star chart you are looking for.
- Blue directional arrows at the edge of each chart guiding you to the adjacent chart. Also large page numerals were added in the lower right corner, helpful when thumbing through the charts.
- Finally, he manually added common star names and a selection of deep sky object names to the star charts, helpful in finding your way around the sky.

Such enhancements are allowed under the Creative Commons License by Andrew L. Johnson, author of the original charts.

SUGGESTION: While printing at the largest paper size you have available is helpful, a great alternative if you have a “letter size” color printer with a manual auxiliary feed slot, is to print on “legal size” (8½ x 14-inch) heavy paper or even “card stock”. You could also punch holes and place in a legal-size report cover available at office supply stores. You would then have a wonderful star atlas to help you through the night skies!

If you have access to a color printer that can print on 11 x 17-inch paper (or card stock), you can print a magnificent copy whose readability will rival that of very nice, commercially available atlases.

To download your ***Mag-7 Star Atlas Milky Way version – ENHANCED***, go to the CAAC website and scroll down the left column to “Mag 7 Star Atlas” and follow the link.

Happy Observing!

Endowment Corner

Gifts for the Present:

Real-estate

A gift of property can be a part of one's distribution of assets with certain tax advantages.

To make a contribution or learn more, please visit
<https://charlotteastronomers.org/endowment/>

Ken Steiner
Chair, CAAC Stewardship Foundation

CAAC CONTACTS

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