



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

CAAC October 2023 Meeting

<p><u>Next Meeting:</u> Friday October 20th, 2023</p> <p><u>Time:</u> 7pm ET</p>	<p><u>Place:</u> <i>Myers Park Baptist Church</i> <i>Education Building – Shalom Hall (Basement)</i> <i>Or Zoom Virtual Meeting</i></p> <p><u>Address:</u> 1900 Queens Road Charlotte, NC 28207 <i>Or Zoom web conference link (See newsletter info below)</i></p>
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A Cosmic Whodunnit: What's Killing Off the Galaxies?

Speaker: Dr. Britt Lundgren



Dr. Britt Lundgren is an Associate Professor in the Department of Physics and Astronomy at the University of North Carolina Asheville. Her research involves pairing large ground- and space-based surveys of distant galaxies and quasars to study galaxy evolution, the intergalactic medium, and large-scale structure. Prior to arriving at UNC Asheville, Britt completed postdoctoral research at Yale University and the University of Wisconsin-Madison and spent one year as an Science and Technology Policy Fellow for the American Association for the Advancement of Science in Washington, D.C. In recognition of her accomplishments in teaching and research, Britt received a Cottrell Scholar Award from the

Research Corporation for Science Advancement in 2020. She is currently serving as Chair of the Advisory Board for the North Carolina Space Grant and as an NSF appointee to the federal Astronomy and Astrophysics Advisory Committee, which advises the NSF, NASA, and the Department of Energy.

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,

What an exciting month it has been...*Show and Tell* at our September club meeting was a rousing success. I personally want to thank Tom Blevins for bringing my old 3" Unitron refractor back to life. I rambled at the meeting about using it to view the Christmas Day, 2000 partial solar eclipse (or a transit of the sun by the moon)...here's how it was used that day...



In 2012, we had the annular eclipse of the sun by Venus...commonly known as the transit of Venus. I use the Unitron that day as well...just shows what you can do with older equipment...



Finally, congratulations to Rick Bassham for an outstanding *Cosmic Camporee* this past weekend. Even with the clouds all day, we had a good turnout for dinner. The clouds parted as sunset neared but came back until midnight. I did not stay the night, but I understand that those who did were treated to some clear skies...even if it was moisture laden.

Clear skies,

Jim

Secretary's Report:

1. It is October and that means the start of the 2024 CAAC annual membership:
 - 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. Our gratitude to new joining members and to our renewing members. Your participation is greatly appreciated.
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
9/30/2023

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: 8/31/2023	\$29,239.51
2	Income: Dues and Fees Hat Sale	 \$360.00 \$20.00
3	Expenses: Monthly Meeting GHRO Utilities (alarm, elec, internet) GHRO Facility Service fee to accept credit cards	 \$286.00 \$434.90 \$380.00 \$12.24
4	Operating Fund Balance: 9/30/2023	\$28,506.37

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

1	Non-Operating Fund Balance: 8/31/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,407.29
2	Income: Interest	 \$4.20
3	Expenses or Transfers:	 \$0.00
4	Non-Operating Funds Balance: 9/30/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,411.49

News from GHRO

1. *Cosmic Camporee* was held this past weekend. We enjoyed hamburgers, hotdogs, pulled pork, lots of sides and even more desserts. We also unveiled the new Solar Array that has been installed at GHRO. A big thanks to all who helped at the workday before and all who helped make Cosmic Camporee a success.



2. The next **Star Party is Saturday, November 11th** beginning at dusk.
3. On September 23rd, Scout Troop 146 visited GHRO. Unfortunately, clouds and rain prevented much observing, but we did get to see Saturn before the clouds fully came in.
4. Telescope training for new members (and those wishing to get a review) will be held on Saturday, October 21st, 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.
5. 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.
6. Please follow the posted startup and shutdown procedures for any club owned scopes. This helps other members when they go to use our equipment.
7. 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/>
8. 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.
9. 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.
10. Construction on the new solar panels is complete. We are only waiting on Lancaster County to do the final inspection before flipping the switch. Another special thanks to the Gleason family for their generous donations that made this a reality. This alone will save the club thousands of dollars per year in electricity costs for GHRO.
11. 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).
12. 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.
13. 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:

10/7 Matthews Library Presentation: Cosmic Perspective

Scheduled:

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.

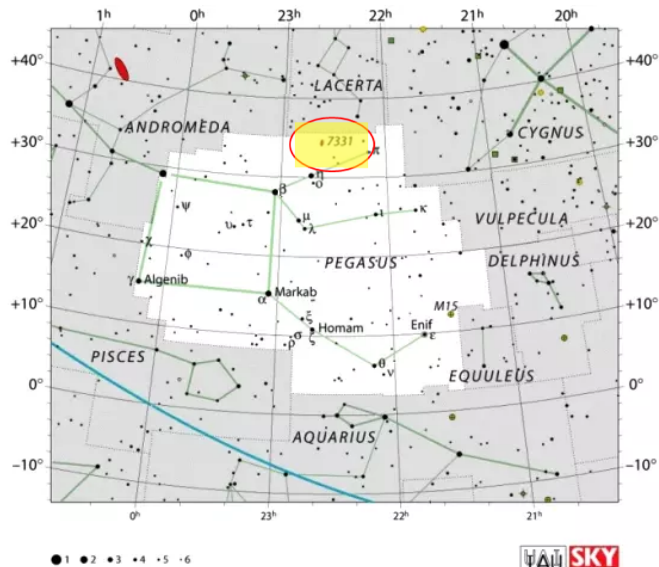
Item 23-001: *1958 Criterion Newtonian reflector*, 6" f/8 for sale with original mount.
Asking \$600 with free delivery within the Charlotte area.
- David Friday, wdfriday@twc.com 704-579-1778.

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 October 2023

NGC 7331 in Pegasus



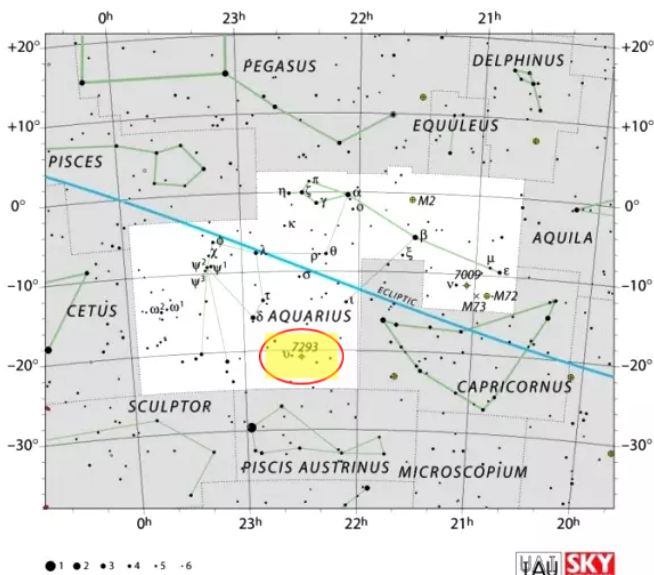
appears and the beginnings of wispy arms. At 12-inches in aperture, spiral patterns emerge, and with good seeing conditions you will observe “patchiness” in the structure. Nebulous areas are revealed and the western half of the galaxy is deeply outlined with a dark dust lane.

Able to be viewed with binoculars, NGC 7331 is located about 4.5° northwest of Eta Pegasi, near the border of Lacerta, **NGC 7331** was discovered in 1784 by William Herschel, and was one of the brightest galaxies overlooked by Messier in his catalog. It appears nearly edge on, tilted at an inclination of 77°. Its structure is remarkably similar to our own Milky Way Galaxy, with a comparable overall mass, spiral structure, distribution of stars, and central supermassive black hole.

Shining with the combined light of a 9th-magnitude star, **NGC 7331** appears as a small fuzzy patch when viewed through binoculars.

With an 8-inch telescope, a bright core

NGC 7293 (Helix Nebula) – Planetary Nebula in Aquarius



One of the closest of all planetary nebulae, the **Helix Nebula** lies at a distance of about 400 light years from Earth. The planetary appears bright at magnitude 7.3, and a huge 12.8 arcminutes across. This is about half the size of the Full Moon! However, despite its large size the nebula is faint and has a low surface brightness, making it hard to pick out from the sky background.

Small scopes show NGC 7293 as a circular misty patch, and a 150-mm telescope reveals that the center is dark and contains a 13th-magnitude star.

From a dark location, the **Helix Nebula** is visible even with binoculars, that show the object as a large circular hazy spot. Rich-field instruments with wide-angle eyepieces are ideal for picking up objects like this on the night sky.

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

Content courtesy of NightSkyInfo, www.nightskyinfo.com/archive

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

Crisp cool October skies is perfect for stargazing with several astronomical events to delight the sky observers:

- New moon occurs on Saturday, October 14 followed by First Quarter moon, October 21, and Full moon on October 28.
- Watch for the parade of planets lead by Saturn rising after sunset in the evening and later followed by Jupiter. Wake up at twilight to view a dark sky filled by Jupiter to the west, Orion to the south, and Venus as the 'Morning Star' to the east.
- Also look for the Orionids meteor shower appearing to originate from Betelgeuse at Orion's shoulder. These meteors mark the orbital path of Halley's comet.

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.

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:

Qualified Charitable Distributions

If you are 70½ or older, you may make a tax-free gift directly from your IRA. That gift does not count as taxable income, but does count toward your annual Required Minimum Distribution (RMD). This is a great way to direct your RMD to a good cause and to avoid the income tax normally incurred.

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

Ken Steiner
Chair, CAAC Stewardship Foundation

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