



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

CAAC May 2023 Meeting

<p><u>Next Meeting:</u> Friday May 19th, 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 <i>Or Zoom web conference link (See newsletter info below)</i></p>
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Darkness in Distress

Light pollution, simply put, is any unnecessary or excessive outdoor illumination. Sadly, it's become a pervasive and ugly consequence of modern 24/7 society. Light pollution robs us of the night sky's beauty, negatively affects the ecosystem, and creates an in-your-face waste of energy. But a new mindset and new technology are poised to slow — and perhaps reverse — this bane of modern life. Come learn how you can safely light up your home, business, and community without wasting energy, disturbing your neighbors, or creating an unhealthy environment for humans and wildlife.

Speaker: Kelly Beatty, Senior Editor Sky and Telescope Magazine

Kelly Beatty has been explaining the science and wonder of astronomy to the public since 1974, when he joined the staff of Sky & Telescope. After 43 years of pounding the keyboard, he retired from full-time work in early 2018 but remains actively involved in many S&T articles, tours, and other projects. An award-winning writer and communicator, he holds degrees from the California Institute of Technology and Boston University. Kelly has been active in efforts to reduce light pollution for more than 30 years. He served for more than a decade on the Board of Directors for the International Dark-sky Association <https://www.darksky.org/> and is now an officer with IDA's Massachusetts chapter.



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,

Let me begin by thanking the membership for their support and confidence as I begin my second term as your president. The bar has been set very high by all the previous presidents and I hope to meet your expectations.

We just completed a successful Southern Star and I personally am looking forward to a summer full of clear skies (yeah...right!!) and opportunities to observe both through our Outreach program and also at GHRO.

I ask each of you to please contact me with any suggestions or concerns about the club, e-mail is the best way. I can be found at president@charlotteastronomers.org

Sincerely yours,
Jim
CAAC President

Secretary's Report:

1. Please see below for the 2023 CAAC annual membership options:
 - 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. 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.
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. 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!

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

My Do
CAAC Secretary

CAAC Treasurer's Report as of 4/30/2023

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: 3/31/2023	\$21,504.44
2	Income: Dues and Fees GHRO Solar Power Project Donation Concrete payment Southern Star Deposits	 \$585.00 \$45,900.00 \$400.00 \$338.00
3	Expenses: Southern Star Southern Star Refunds 50% Solar project payment Monthly Meeting GHRO Utilities (alarm, elec, internet) New Building GHRO maintenance Service fee to accept credit cards	 \$150.00 \$1,085.00 \$22,950.00 \$286.00 \$351.90 \$292.96 \$161.02 \$19.70
4	Operating Fund Balance: 4/30/2023	\$43,430.86

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

1	Non-Operating Fund Balance: 3/31/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,385.84
2	Income: Interest	 \$4.21
3	Expenses or Transfers:	\$0.00
4	Non-Operating Funds Balance: 4/30/2023 Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,390.05

Scott Goforth
CAAC Treasurer

News from GHRO

1. The May star party is Saturday, **May 20th** beginning at dusk. Please come down to GHRO and enjoy a crisp Spring evening under clear, dark skies (finger's crossed).
2. Telescope training for new members (and those wishing to get a review) will be held on Saturday, **May 13th** beginning at 6:30 PM and again on Saturday, June 22nd at 6:30PM. This training is required for all new members that 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.
3. Don't forget that the current sky conditions and weather and the Clear Sky Clock is found at the bottom of our homepage... www.charlotteastronomers.org
4. 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 9 spots available. Users are encouraged to have their contents insured, as CAAC will not be insuring the contents of the building. Please see Jim Gaiser or Rick Bassham if you have any questions.
5. There is new construction going on near the solar observatory, so please be careful in that area. A new, state of the art imaging observatory is being constructed and will contain a Plane Wave 12.5" MDK telescope on a Plane Wave L350 mount. This roll-off-roof facility will be available for all members of the club who get training, and it will be operated from inside the Outreach Center. The pier has been mounted, and the roof should be motorized this month. Electricity and network will be run to this new building soon as well.
6. Construction on the new solar panels is scheduled for May 22nd.
7. Fire ant treatment has been applied to the grounds on May 10th.
8. The complete GHRO calendar for 2023 is below:

2023 Star Party and Training Schedule					
GHRO					
Moon					
Illumination					
	Star Party	on Star		Training start	
	Date	Party date	Training Date	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	5:00	
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.

Jim Gaiser, Director GHRO.

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

Recent Events: Discovery Place Event hosted by Jim Craig with assistance by Scott Goforth, My Do and Gracie Siebert. Ken Steiner presented a program on the James Webb Space Telescope to the Charlotte North Rotary Club.

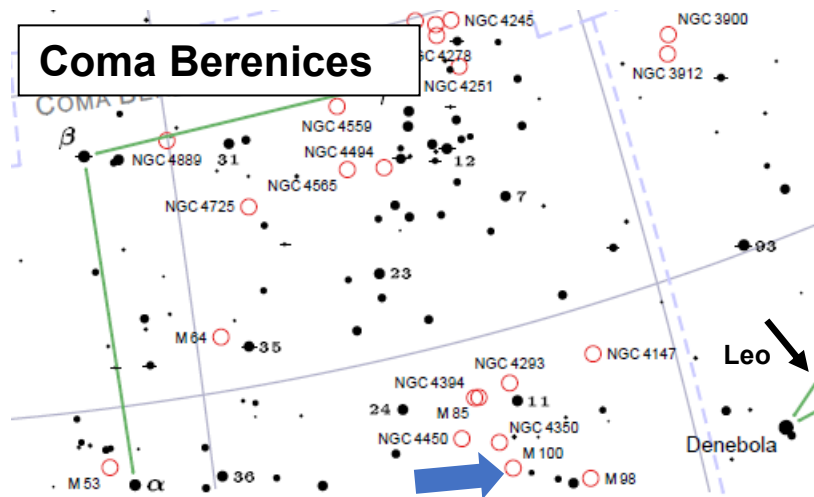
Upcoming:

Upcoming event for May 26 includes Sun City (Indian Land) hosted by Jim Gaiser. We need volunteers for this event. Also on May 26, Ken Steiner will be presenting "Cosmic Perspective" at the Matthews Glen Retirement Community.

Ken Steiner
CAAC Public Outreach Coordinator

May Sky Challenge

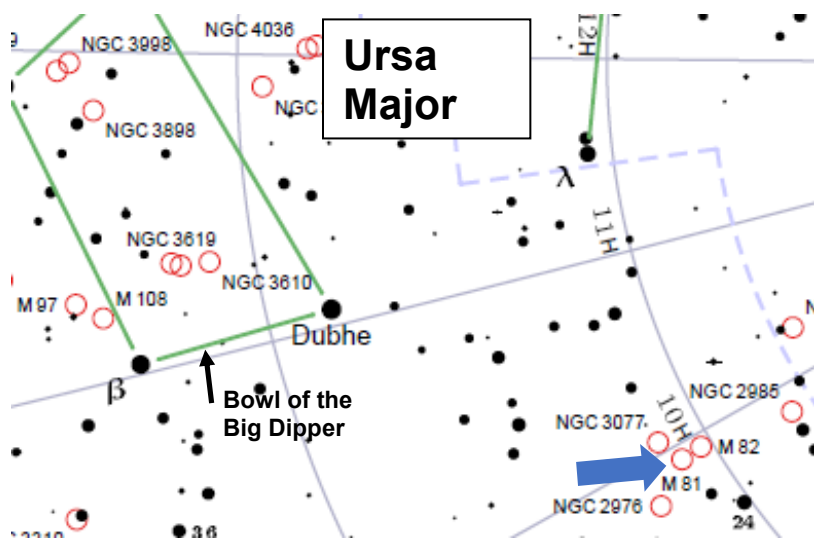
Are you looking for something to discover in the night sky? Try these with a modest size telescope, with some patience and persistence! Or come down to the GHRO and get a really fine look! This month – three galaxies to find!



Coma Berenices

M100 can be spotted with large binoculars and backyard telescopes in Coma Berenices, a faint constellation M100 is the brightest and largest spiral galaxy in the Virgo Cluster and has a “grand design”, meaning that it has two symmetrically placed spiral arms that extend over most of its visible disk in

professional telescopic images. Through an 8-inch scope at low to medium power, look for a soft, round glow about 6' across. You will not see M100's spiral arms until you crank the magnification past 200X, and then only on the best nights.



M81 & M82 Galaxies

M81 is an outstanding Sb spiral galaxy in Ursa Major. Although its magnitude of 7 makes it bright enough to be visible in 7×50 binoculars in suburban skies, M81 is pretty hard to find because it is located far from any handy reference stars. M81 is an example of a starburst galaxy undergoing a period of rapid star formation. Even in a small telescope it looks

disturbed, and in larger instruments it is highly mottled with several bright knots visible. Found within the same low-power eyepiece field as M81 is **M82**, a peculiar edge-on galaxy. Although it is a magnitude fainter than its neighbor, M82 offers more structural detail, but you will need a larger telescope to see that. Try visiting the GHRO on a clear night!

Acknowledgements:

NightSkyInfo www.nightskyinfo.com/archive for target descriptions, adapted.

Mag Star 7 Star Atlas Project © 2005 Andrew L. Johnson for star maps (clipped)

Edited by Mark Hoecker

What's Up in the Sky?

Highly Recommended Download and print a good *FREE* star map (including interesting objects to look for) monthly from:

Skymap <http://www.skymaps.com/downloads.html>

You'll also find a good monthly sky map in each issue of *Sky & Telescope* or *Astronomy* magazines.

New to the Night Sky?

Are you puzzled by folks in the club who point up in the sky and say "There's Gemini... and you can see Leo rising over there...and doesn't Regulus look clear tonight"? Are you trying to figure out where those darn constellations are? Large star atlases are pretty intimidating...confusing... and expensive. Cell phone apps are just hard to see.

A good starting point could be called, *My First Star Atlas*... but in reality it is 4 simple but very helpful *FREE* star chart pages from the Stephen F. Austin State University – called **SFA Star Charts**. Pages 2 & 3 show you about 90% of everything you need to get started. There are even a couple pages that explain how to use a star chart. Clear and straight-forward.

Go to this link and print out the pdf file on the largest paper you have available, though standard letter paper is fine:

<http://observe.phy.sfasu.edu/SFAStarCharts/SFAStarChartsAll.pdf>

While these charts do not show the myriad of deep sky objects, they DO show the constellations and brightest stars – a good introduction to the night sky. Happy Observing!

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 on the top menu bar, hover your cursor over “Resources” then select “Mag-7 Star Atlas”. Follow the directions to download.

Happy Observing!

Endowment Corner

Gifts for Tomorrow:

Life Insurance

If you retain any control over the policy, no income tax deduction is allowed; however, if the CAAC Stewardship Foundation is named both the sole owner and beneficiary of a policy, you may receive an immediate charitable deduction for the lesser of the policy's fair market value or the net premiums paid. Additional premiums that you pay may also be tax deductible.

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

Ken Steiner
Chair, CAAC Stewardship Foundation

CAAC CONTACTS

President	Jim Gaiser	president@charlotteastronomers.org
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