



Charlotte Amateur Astronomers Club
www.charlotteastronomers.org

CAAC February 2021 Meeting

<p><u>Next Meeting:</u> Friday February 19, 2021</p> <p><u>Time:</u> 7pm ET</p>	<p><u>Place:</u> <i>Virtual Meeting - From the comfort of your home</i></p> <p><u>Address:</u> Zoom web conference link (See newsletter info below)</p>
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Earth Rise: A Journey of Discovery

Speaker Bio: Alan Sturgis

Alan is an aerospace engineer who currently works at Langley Research Center and has also supported tasks at Marshall Space Flight Center and Wallops Flight Facility. He was always exploring as a child and now enjoys exploring beyond his backyard. He often can be found stargazing as an amateur astronomer and right now enjoys traveling the world virtually. His goals are to explore, inspire, sustain and promote peace.



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://us02web.zoom.us/j/86787482945?pwd=bXNZand5dmh2b29sZTd2VXVmTVVOZz09>

- a. If needed Meeting ID: **867 8748 2945**
Passcode: **818685**
- b. 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:

We continue our monthly meetings virtually via Zoom. Thank you to those who have supported this format. We look forward to resuming in-person meetings when this Covid virus gets under control. We will resume when it is medically safe to do so. I appreciate your patience.

One of the benefits of our virtual meetings is that we have available speakers that we would not normally have for our local meeting since we are not faced with long travel and housing logistics. This month's meeting with Alan Sturgis, NASA Aerospace Engineer, is an example of a speaker that we are able to utilize with the virtual format. We had a practice session with Alan earlier this month and I for one am eagerly looking forward to his presentation Friday evening.

I also want to make you aware of a website for which Pisgah Astronomical Research Institute (PARI) has agreed to provide support and maintain. The website <https://www.keplersdiscovery.com/> is an educational item that utilized neat animation models to explain various astronomical concepts.

Keep looking up and keep practicing safe Covid prevention protocols.

Ken Steiner
President

CAAC Treasurer's Report as of 1/31/2021

Part 1 of 2

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 net Southern Star income (or expense).
- Funds are expended to meet operating obligations of the club.

1	Operating Fund Balance 12/31/2020	\$10,636.53
2	Income	
	Dues and Fees	2225.00
	Pad Fees	150
	GHRO Infrastructure Improvement Donations	645.35
3	Expenses	
	Southern Star	1000.00
	GHRO Utilities	493.93
	Fee for Credit Card Service	92.66
	Director's Insurance	798.00
	Transfer to GHRO Infrastructure Non-Operating (from prior month)	2900.00
4	Operating Fund Balance: 1/31/2021	\$8372.29

Part 2 of 2

Non-Operating Funds

Purpose: Administer gifts and donations for designated use.

1	Balance 12/31/2020: Non-Operating Funds	
	Scholarship Fund	2989.36
	Contingency Fund	27,358.80
2	Income	
	Interest	.48
	Capital Campaign Donation	3778.65
3	Expenses or Transfer	
4	Balance 1/31/2021: Non-Operating Funds	
	Scholarship Fund	2989.36
	Contingency Fund	27,359.28
	GHRO Infrastructure Improvement	29,488.67

-Benton Kesler
CAAC Treasurer

News from GHRO

1. While scheduled star parties and training are on hiatus due to Corona Virus concerns, GHRO is open for your personal use and maintenance. Please observe the posted COVID protocol while at GHRO by wearing a mask and maintaining social distancing. Mask wearing is mandatory inside any of the CAAC owned buildings.
2. If you are interested in becoming part of the Observatory Committee, please let me know. The committee helps the Director maintain the facility and provide insight and advice on operations and maintenance of GHRO.
3. The new WiFi is up and working, repeaters have been installed near the All Members pad and the 24" telescope. Additional access points will be installed once additional fiber optic lines are in place. Members can access CAAC WiFi, CAAC WiFi_new or CAAC WiFi new5G...they all the same (old) password.
4. The 24" telescope is outfitted with a Nexus DSC with WiFi and can be used with Sky Safari Pro on iPhones and other iOS devices. Please check with the observatory director before using your personal device to ensure proper operation and ensuring collision avoidance.
5. While the weather this winter has been nasty for the most part, spring skies are just around the corner, and with that comes spring cleaning. I'd love to have 5-7 teams of 2-3 people to do general cleaning of all the club owned observatories and the Outreach center on Saturday, March 13 beginning at 10 AM. The list of projects is long and varied, so please set aside this date if possible and let me know of your availability by sending me an e-mail to jegaizer@gmail.com

GHRO Information (see <http://1drv.ms/1m2wPUh>)

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 ***

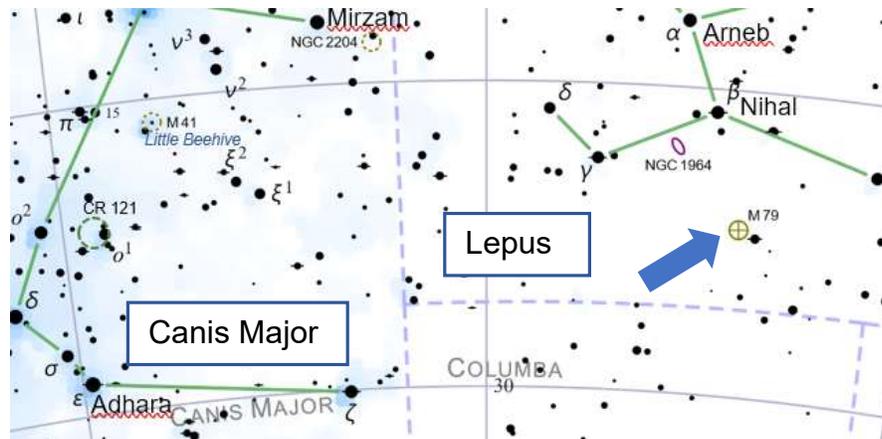
This facility (GHRO) and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

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.

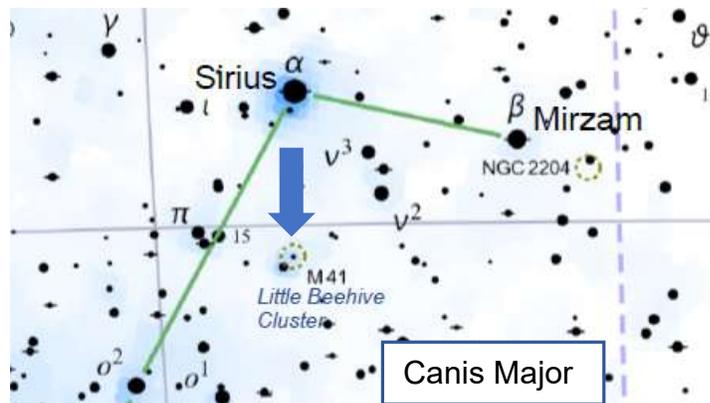
February Sky Challenge

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, a beautiful globular cluster and an open cluster!



M79 is a globular cluster in the constellation Lepus. It was discovered by Pierre Méchain in 1780 and is at a distance of about 42,000 light years away from Earth. It is thought that M79 is not native to the Milky Way galaxy at all, but instead to the putative

Canis Major Dwarf Galaxy, which is currently experiencing a very close encounter with the Milky Way. This is, however, a contentious subject as astronomers are still debating the nature of the Canis Major dwarf galaxy itself.



Canis Major, M41... also known as the **Little Beehive Cluster** (not to be confused with M44, the Beehive Cluster). **M41** is one of the deep sky showpieces of winter, a beautiful open star cluster first documented in 320 B.C. by Aristotle. Finding it is extremely easy: center Sirius in your eyepiece's field and from here move the telescope four degrees south. However, before you do this first

take a quick look at Sirius. It is the brightest star in the night sky, a hot sun 1.8 times as large and 24 times as luminous as our Sun. It is also the closest naked-eye star visible from mid-northern latitudes, located just 8.6 light-years away.

Shining at magnitude 4.6, M41 is visible with the naked-eye on clear nights and is partially resolvable into stars with binoculars. The cluster contains about 25 bright stars and many fainter ones scattered in a field of 30 arcminutes, as large as that covered by the Full Moon. Because it has such a large angular diameter M41 is best seen with a wide-field, low-power eyepiece. While most of the cluster is composed of blue and white (younger) stars, look for a deep orange-red star near the center.

Acknowledgements:

NightSkyInfo www.nightskyinfo.com/archive and Wikipedia 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? Those large star atlases are pretty intimidating... confusing... and expensive.

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 scroll down the left column to “Mag 7 Star Atlas” and just follow the link.

Happy Observing!

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