



Charlotte Amateur Astronomers Club  
[www.charlotteastronomers.org](http://www.charlotteastronomers.org)

### CAAC March 2023 Meeting

<p><b><u>Next Meeting:</u></b> Friday March 17th, 2023</p> <p><b><u>Time:</u></b> 7pm ET</p>	<p><b><u>Place:</u></b> <i>Myers Park Baptist Church Education Building – Shalom Hall (Basement)</i></p> <p><b><u>Address:</u></b> 1900 Queens Road Charlotte, NC 28207</p>
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### Postcards From the Universe

Our program for March is provided by the Night Sky Network. This month we will see a presentation entitled Postcards From The Universe. We join Dr. Robert Nemiroff as he guides us on a tour of the highlights from last year's Astronomy Picture of The Day. Astronomy Picture of the Day (APOD) originated, written, coordinated, and edited since 1995 by Robert Nemiroff and Jerry Bonnell. The APOD archive contains the largest collection of annotated astronomical images on the internet and has become one of the go-to sites for many of us as we contemplate our place in the universe.

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**From the President:**

Dear Friends,

The first quarter is behind us and 2023 continues to provide wonderful opportunities for our club. We continue to get regular requests from the community for outreach programs and we need your help. As your schedule allows, please consider volunteering.

Southern Star registration is open. In the first week, nearly 40 people registered, and it promises to be a fully subscribed event. Please remember that registration is open to the larger astronomy community so register early to secure a spot.

Clear Skies,

Joel Levy  
CAAC President

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## Secretary's Report:

1. Registration for the **34<sup>th</sup> Annual Southern Star Astronomy Convention** is now Open! Please use this link to register: <https://charlotteastronomers.org/southern-star/>
2. CAAC often receives donations from club members. We want to recognize two generous donations made in March. Our sincere gratitude to these wonderful donors:
  - In early March, the CAAC received an anonymous donation for \$500 in the name of CAAC Observatory Director, Dr. Jim Gaiser. The reason and spirit behind this donation is Jim's unwavering commitment in helping and passing along knowledge to club members who are new to astronomy. "Thanks to Jim for all you do for our astronomy community."
  - CAAC also want to thank the Townsend Family for their generous donation of thirty dollars in Honor of Peter Tkacik.
3. 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
4. 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.
5. 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!

6. 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](http://nightsky.jpl.nasa.gov/club-apply.cfm?Club_ID=1468&ApplicantType=Member-Pre-Monthly)

7. 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.

If you're not familiar with it, Slack is a social / chat platform-- kind of like a combination of texting and forums. We have several dedicated group channels, such as GHRO-trips, astro-imaging, and miscellaneous-equipment-talk, just to name a few. It also offers file/image sharing and direct messaging to individual users or groups of users.

When you sign up you'll be added to some "channels" automatically, and likely see some other suggestions as well.

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](mailto:caac-slack@jamieandamy.com) and he will help you get on the team.

Clear Skies,

My Do  
CAAC Secretary

## **CAAC Treasurer's Report as of 2/28/2023**

### **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	<b>Operating Fund Balance: 1/31/2023</b>	<b>\$10,059.10</b>
2	<b>Income:</b> Dues and Fees Sale of club owned equipment	 \$1,550.00 \$200.00
3	<b>Expenses:</b> GHRO pest control GHRO Facility GHRO Utilities (alarm, elec, internet) Telescope Wedge Service fee to accept credit cards	 \$146.00 \$425.31 \$456.90 \$2,812.98 \$50.34
4	<b>Operating Fund Balance: 2/28/2023</b>	<b>\$7,917.57</b>

### **Non-Operating Funds**

**Purpose: Administer gifts and donations for designated use.**

1	<b>Non-Operating Fund Balance: 1/31/2023</b> Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,377.58
2	<b>Income:</b> Interest	 \$3.92
3	<b>Expenses or Transfers:</b>	 \$0.00
4	<b>Non-Operating Funds Balance: 2/28/2023</b> Scholarship Fund CAAC Self Insurance Fund Contingency Fund	 \$6,706.87 \$20,000.00 \$7,381.50

Scott Goforth  
CAAC Treasurer

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## Southern Star 2023

Registration is now open for the 34th Annual Southern Star Astronomy Convention!

<https://charlotteastronomers.org/southern-star/>

Southern Star 2023 will be held April 27-30 at Wild Acres Retreat near Spruce Pine, NC. Confirmed speakers this year include:

- **Mike Menzel** from NASA, speaking about the James Webb Space Telescope.
- **Dr. Brad Barlow** from High Point University.
- **Richard Wright**, formerly of Software Bisque.

Mr. Menzel was featured during our 2016 Southern Star. Dr. Barlow spoke in his 2017 visit to Southern Star. This will be Mr. Wright's first visit to Southern Star. One more speaker will round out the schedule and their talks and biography will be shared soon.

Come join us for 4 days and 3 nights of friendship, fellowship, great speakers and (hopefully) star gazing. We have a first quarter moon, but that shouldn't deter us.

**34<sup>th</sup> Annual  
Astronomy Convention**

**Registration is Now Open!**  
<https://charlotteastronomers.org/southern-star/>

**Exceptional Key Speakers**

**Stay at WildAcres**  
**3 Nights & 4 Days**  
Includes Meals & Reception

**Star Parties & Solar Viewing**  
**Social Events & Door Prizes**  
optional Nature Hike & Artisan Visit

**Southern Star 2023**  
CAAC  
Charlotte Amateur Astronomers Club  
April 27-30

**WILDACRES  
RETREAT**  
LITTLE SWITZERLAND  
NC

# SOUTHERN STAR April 27-30, 2023

## Wildacres Retreat

- **Four fabulous speakers!**
- **Camaraderie with your astro friends!**
- **Great accommodations and food** at Wildacres Retreat!
- **Solar observing and night-time observing** in DARK skies after moonset!
- **Wine and Cheese Reception** and Ice Cream Social!
- **Nature hike** and visits to local artisans
- **Door Prizes!**
- **Swap tables!** Trade or sell your old stuff – Trade or buy some new toys!
- **Three nights:** Adult 18+: \$305.00  
College Student: \$195.00  
Child 7-17: \$130.00  
Day Attendee: \$75.00

**Launch date: March 5, 2023**

**Check our web site for registration details**

[www.charlotteastronomers.org/Southern-star](http://www.charlotteastronomers.org/Southern-star)



**Mike Menzel**  
NASA - Goddard

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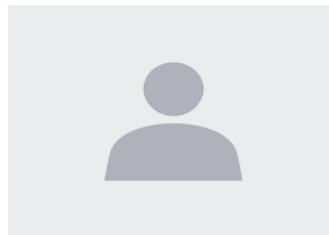
**Dr. Brad Barlow**  
High Point University

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**Richard Wright**  
LunarG Inc. and StarStone Software

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**Joining us soon**

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## News from GHRO

1. The next star party is Saturday, March 18 beginning at dusk. The April star party is April 22, also beginning at dusk. Please come down to GHRO and enjoy a crisp Spring evening under clear, dark skies (finger's crossed).
2. There will be several groups visiting GHRO over the next 5 weeks, with several groups camping. If you can help with any of these, it would be appreciated. Please contact Jim Gaiser if you can come to GHRO and help with any of the events listed in item 3 below.
3.
  - a. A home school group coming to GHRO on Friday night, March 17 beginning at 6PM in the classroom before moving to the telescopes after dark. There should be a group of about 30 people, students and adults.
  - b. Cub Scouts are coming to camp beginning Friday, March 24 and leaving Sunday March 26. Please contact Jim Gaiser at [jegaiser@gmail.com](mailto:jegaiser@gmail.com) as he will be coordinating the volunteers for this event.
  - c. A second home school group is coming on Friday, March 31, again beginning at 6 in the classroom before moving to the telescopes.
  - d. A Girl Scout troop is overnighing on Saturday, April 1. They'll use the telescopes on Saturday evening starting at dusk.
4. Telescope training for new members (and those wishing to get a review) will be held on Saturday, April 15 beginning at 6:00. 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 cancelled only if it is actively raining or snowing. If it's clear, you can practice your newfound skills immediately after the training.
5. Don't forget that the current sky conditions and weather and the Clear Sky Clock is found at the bottom of our home page...[www.charlotteastronomers.org](http://www.charlotteastronomers.org).
6. 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.
7. 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. It is hoped that the observatory will be operational by April 15. Stay tuned.

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
	Junly	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	

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## 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.

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## CAAC Outreach Opportunities



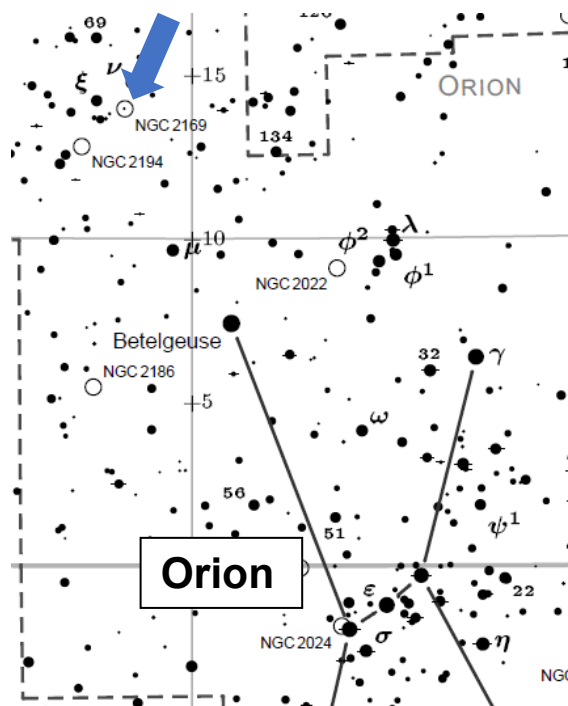
We recently had a great turnout at the Beverly Hills Stem Elementary school in Concord. Special thanks to Gayle Riggsbee, Jim Gaiser, David and Roxane Friday for their help providing a memorable evening for approximately 150 kids and parents.

### **Upcoming:**

Cornelius Park and Recreation department Star Party on April 15, 2023. The set up time is around 7:15 pm since the sunset is not until 7:57 (Daylight Saving time is not kind to astronomy!). The location is 17738 W Catawba Ave, Cornelius, NC 28031. We need several scopes for this event.

# March 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!

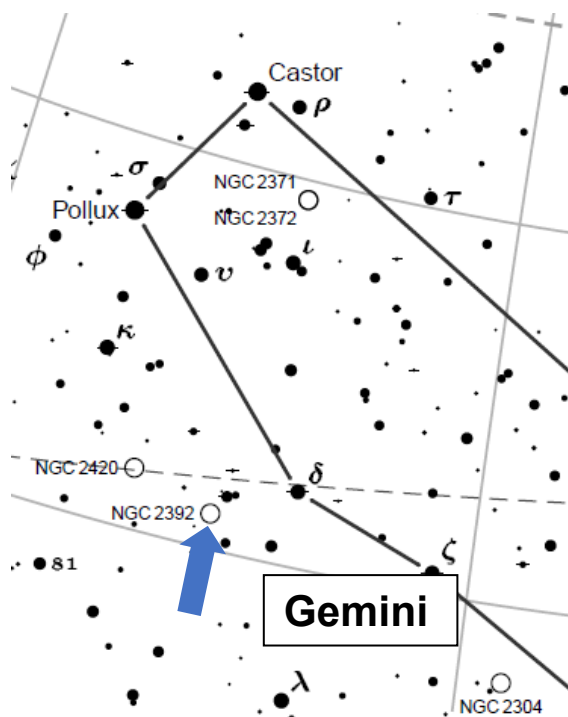


## Orion

### NGC 2169 Open Star Cluster

Many clusters are named by their number in the New General Catalog (NGC), which was compiled between 1864 and 1908. Our highlight deep sky object this month is a little-known member of this catalog – **NGC 2169** in Orion.

NGC 2169, nicknamed “The 37 Cluster” due to its striking resemblance to the number 37, is located about 3,600 light years away from us. As far as open star clusters go, NGC 2169 is a small one, spanning only 7 light years across. Its stars are about 8 million years old and are expected to disperse over time as they encounter other stars, interstellar clouds, and experience gravitational tides.



## Gemini

### NGC 2392 Planetary Nebulae

Some planetaries appear more like a ring – or even a face – than a disk. This is true especially for the **Eskimo Nebula** (NGC 2392) in Gemini the Twins. NGC 2392 is easily located about 1° southeast of the wide double star 63 Geminorum. With low power it is an unimpressive sight, appearing to be little more than a star surrounded by dim haze. However, increased magnification and a little patience bring out some interesting details. It just may look like a face surrounded by an Eskimo's white fur collar! Try using averted vision with this one.

Like all planetary nebulae, the Eskimo Nebula is expanding, and has now reached a diameter of more than half a light-year. The gas shell probably first left the Eskimo's central star some 1,500 years ago, making this planetary one of the youngest known.

Acknowledgements:

NightSkyInfo [www.nightskyinfo.com/archive](http://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?

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.](#)

## 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 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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President	Joel Levy	<a href="mailto:president@charlotteastronomers.org">president@charlotteastronomers.org</a>
Vice President	Benton Kesler	<a href="mailto:vicepresident@charlotteastronomers.org">vicepresident@charlotteastronomers.org</a>
Treasurer	Scott Goforth	<a href="mailto:treasurer@charlotteastronomers.org">treasurer@charlotteastronomers.org</a>
Secretary	My Do	<a href="mailto:info@charlotteastronomers.org">info@charlotteastronomers.org</a>
Observatory Director	Jim Gaiser	<a href="mailto:ghro@charlotteastronomers.org">ghro@charlotteastronomers.org</a>
Public Outreach Coordinator	Ken Steiner	<a href="mailto:publicoutreach@charlotteastronomers.org">publicoutreach@charlotteastronomers.org</a>
Southern Star	Jodie Funderburk	<a href="mailto:southernstar@charlotteastronomers.org">southernstar@charlotteastronomers.org</a>