



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

**Next Meeting:** Friday September 21th, 2018

**Time:** 7:00 PM

**Place:**

Myers Park Baptist Church  
Education Building – Shalom Hall (Basement)

**Address:**

1900 Queens Road  
Charlotte, NC 28207

CAAC September 2018 Meeting

Program:

## Meteorites!

### **Description**

Meteorites land on Earth on a daily basis, some more spectacularly than others. The goals of this presentation are to define what meteorites are, describe where they originate and how they get to Earth, explain how they are found once they land, and provide a few examples of the secrets meteorites reveal about our solar system.

### **Speaker**

Valerie Reynolds earned her PhD and MS degrees in Geology from the University of Tennessee, Knoxville. After earning her PhD, she worked as a Research Associate in the Mineral Sciences division of the Smithsonian National Museum of Natural History where she continued her research on meteorites from asteroids and Mars in addition to volcanic rocks from Hawaii and the mid-Atlantic seafloor. For the last 6 years, Valerie has been a Geology Lecturer at UNC Charlotte where her focus is undergraduate teaching and mentoring.



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From the President

## Thank You Thank You

I want to express a big THANK YOU for the club's support of the Scholarship Auction last month. We raised a little over \$2,600.00 for the scholarship fund. We believe this is a record.

We normally hold this auction every 2 to 3 years to raise funds for the scholarships for college students majoring in astronomy or physics. We are dependent on donated items from members and folks in the community who donate telescopes they no longer want or use. Bidders complete the circle of support and your generous bidding was greatly appreciated.

Again, Thank You for a great auction for a good cause.

Ken Steiner  
President

## CAAC Treasurer's Report as of 8/31/2018

### 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.

<b>1</b>	<b>Operating Fund Balance: 7/31/2018</b>		\$13,362.33
<b>2</b>	<b>Income</b>		
	Dues & Fees		170.32
	Transfer from Savings – Laura Heavner Memorial		475.00
	Pad Fees		0.00
	Scholarship Auction		2673.68
<b>3</b>	<b>Expenses</b>		
	GHRO Expenses		305.04
	GHRO Annual Insurance		
	GHRO Utilities	1661.02	
	Fees for Credit Card Service		247.08
	Meeting Expense (Room Rent)		2.96
	Outreach Expense		236.25
	Transfer to Savings – Scholarship Auction		21.68
			2673.68
<b>4</b>	<b>Operating Fund Balance: 8/31/2018</b>		\$11,533.62

### Part 2 of 2

#### **Non-Operating Funds**

Purpose: Administer gifts and donations for designated use.

<b>1</b>	<b>Balance 7/31/2018: Non-Operating Funds</b>		
	Scholarship Fund		3,315.00
	Contingency Fund		28,283.94
	Long-Term Fund		7203.74
<b>2</b>	<b>Income</b>		
	Donation: Microsoft, BofA, Other		230.00
	Transfer from Checking – Scholarship		2673.68
	Interest		
<b>3</b>	<b>Expenses or Transfers</b>	1.01	
	Laura Heavner Memorial Fund to checking		475.00
	<b>Balance 8/31/2018: Non-Operating Funds</b>		
	Scholarship Fund		5989.36
	Contingency Fund		28,038.94
	Long-Term Fund		7205.74

Annual dues for our fiscal year October 2018 through September 2019 will be due beginning October 1. We can accept your renewals either through the membership link on the club website [www.charlotteastronomers.org](http://www.charlotteastronomers.org) or by cash or check at our next meetings. Dues are \$60 for the year and include access to the Gayle H Riggsbee Observatory (GHRO) in SC.

-Benton Kesler  
CAAC Treasurer

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CAAC Outreach Updates

*CAAC Outreach need boots on the ground with scopes for upcoming events*

*Check the CAAC Night Sky Network Events Calendar for more details*

*If you are interested in getting more involved with CAAC Community Outreach please contact Kevin Moderow, kevinmoderow@gmail.com*

Kevin Moderow  
CAAC Outreach Coordinator

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**SAVE THE DATE!!!**

**CAAC Southern Star 2019**  
**April 4 - 7, 2019**

**Mark Your Calendar!**  
**Save the Dates! Save the Dates!**

The Charlotte Amateur Astronomers Club, Southern Star Committee is busily working on getting the lineup of excellent speakers for our 33rd annual astronomy convention, obtaining great door prizes, etc.

**Check our website in the coming months for more details.**

**<http://www.charlotteastronomers.org/southernstar>**

**We hope to see YOU there!!**

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## News from GHRO

1. There will be telescope training for the solar, 8" refractor and the 16" reflector on Saturday night, **October 20** beginning at 5 PM. If you haven't been trained, or want a refresher, come on down. If you missed the NEXUS training in July, we'll do it again on the 20<sup>th</sup> as well. It's an 80% full moon, so we'll begin the NEXUS training when we finish the training on the other telescopes...about 7 PM.
2. Cosmic Camporee is HERE, **October 5-7**, with a backup date of **October 12-14**. There will be burgers and dogs provided by CAAC to accompany the side items and desserts provided by each of you. We'll start the menu coordination in September.

### GHRO Information (see <http://1drv.ms/1m2wPUn>)

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 \*\*\*

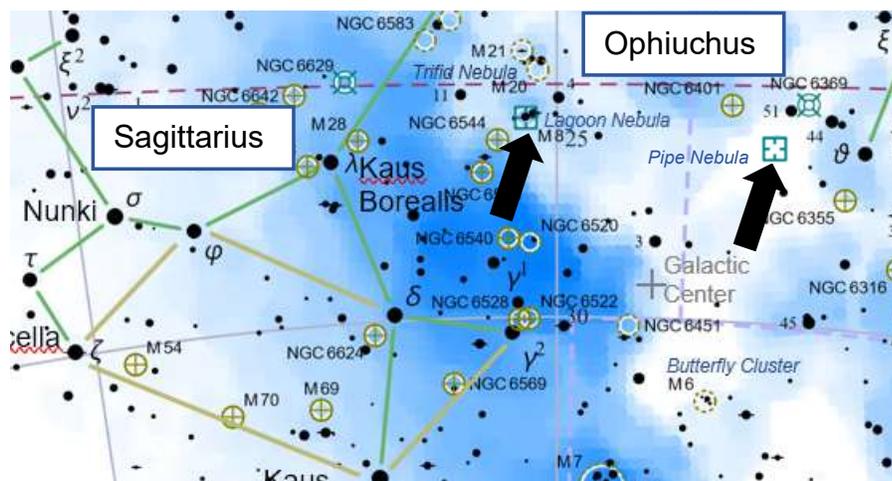
This facility and adjoining area may contain uneven terrain, dangerous wildlife, low light conditions, and dangerous man-made obstacles.

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.

## September 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, an emission nebula and a dark nebula—close together!



In Sagittarius, on a clear, dark night, look about 5° (two finger-widths) west of 3rd-magnitude Lambda Sagittarii, the star that marks the top of the easily recognizable asterism called the Teapot. You will surely notice a bright comet-like patch, similar in size to the well-known Orion Nebula. This is **M8**, nicknamed the “**Lagoon Nebula**”, a vast cloud of

interstellar gas and dust more than 50 light-years across and about 5,700 light-years distant.

M8 is a fine example of an H II region: an emission nebula in which strong ultraviolet radiation from two very hot stars – 6th-magnitude 9 Sagittarii and 9th-magnitude Herschel 36 – excites surrounding hydrogen gas and causes it to glow. The nebula is complemented on its eastern side by NGC 6530 – a loose open star cluster composed of more than a hundred known bright members and hundreds of fainter members probably accompanying them. The cluster’s stars are less than 5 million years old, practically brand new by astronomical standards.

Discovery of the Lagoon Nebula is often credited to the French astronomer Legentil de La Galaisiere in 1747, though it seems that it was first noted by John Flamsteed as early as 1680.

Dark nebulae (or absorption nebulae) can be enjoyed with the unaided eye, with binoculars and rich-field telescopes (RFTs), or with the largest amateur instruments. They range from small black voids a few arcminutes across to the Great Rift of Cygnus, stretching more than 120° from Deneb to Alpha Centauri. A perfect example is the 7°-long **Pipe Nebula**, a beautiful naked eye object in southern Ophiuchus.

Start your search about 10° east of Antares. Look for a line of three stars of magnitudes +3 and +4, the only prominent stars in that area of sky. The brightest, Theta Ophiuchi, lies at the line’s midpoint and the bowl of the Pipe Nebula is centered 3° southeast of Theta. The bowl, designated Barnard 78, appears as a jagged rectangular formation, with an opacity of 5. In a 1 to 6 scale, the most opaque dark nebulae are classed opacity 6, and the least opaque as opacity 1.

With the unaided eye, the stem looks like a nearly straight dark cloud. The subtle details come to light when viewed through binoculars, only if the skies are especially clear.

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?

**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 follow the link.

**Happy Observing!**

## CAAC CONTACTS

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