



The Observer

A Publication of The Cuyahoga Astronomical Association
PO Box 868, North Olmsted, OH 44070
CAA Homepage: <http://www.cuyastro.org>

MEMBER OF NASA / JPL

Night Sky Network

Astronomy Clubs bringing the wonders of the universe to the public



FROM THE EDITOR

Happy Fall! Chill in the air, leaves starting to drop, football games on TV, and hopefully some very clear skies for US!

Good issue here. We have a reprint article about the history of the modern planetarium, an announcement regarding the BW lecture series—hosted by our own Gary Kader, and of course our usual selection of club stuff!

Btw, BEST WISHES to club member Paul Leopold. Paul reports that he has been laid up with a pinched nerve in his neck, making observation through his hand-made 20" Newtonian difficult at best. Hope you get well soon and be back out in the field with the "Beast"!

We have a FOR SALE OR TRADE section so if you have something you would like to offer through the OBSERVER,, you can send your submissions directly to me (camtimothy@aol.com) and I will publish. Be sure to include your contact info as prospective buyers will need to contact YOU directly!

As always, this is YOUR club and YOUR newsletter, so if there is anything that you would like to contribute, please do! Articles, items for sale, pictures are always welcome. I do run things by President Murmann to make sure that content is appropriate and family-friendly!

The CAA is now 62 years old and going strong.

As always, keep looking up!

Tim Campbell, Editor

PRESIDENT'S COMMENTS

President's Comments—September

I'd like to welcome a new member Adina Corcodel, who joined our club last month!

Adina's 8-year-old son is an astronomy enthusiast. She and her son have already been out to Letha House to see the night sky and to meet a few of our members who had organized an impromptu star gazing session. Please make Adina and her son feel welcome!

Star Party. As I mentioned earlier in an e-mail, we have a public star party scheduled on Saturday, September 7, at Letha House from 9 p.m. to 11 p.m. Set up is at 8 p.m. As usual, help would be greatly appreciated. Please join us with your scope if you can!

Annual Convention. Our annual CAA convention and pot luck dinner/cookout is scheduled this month for Saturday, September 21, at Letha House starting around 2 p.m.

Please bring a favorite food or dessert to share. The club as usual will provide brats, sausages, hot dogs, buns, condiments, and other picnic supplies.

We will have the usual fund-raising raffle of prizes donated by astronomy vendors, followed by an evening of star gazing if we have clear skies.

This is a great opportunity for socializing with fellow members. Hope to see you there!

September Meeting. Our monthly club meeting will be held starting at 7:30 p.m. at the Rocky River Nature Center in Monday, September 9. Please join us. Our speaker will be Prof. Stacy McGaugh from Case Western Reserve University who will discuss "Dark Matter and Gravity in the Universe."

Final Star Party for 2019. Our final public star party for the year will be on Saturday, October 5, at Letha House. Uranus, Neptune, Pluto, Saturn, Jupiter, and the Moon will be visible during the program. Pluto, of course, will be the challenge object.

New Equipment. The electric elevating pier that we ordered for the 10-inch scope in our observatory has been delivered. Observatory Director Jay Reynolds will have information about this and about plans for the observatory.

Annual Dues. Our annual CAA membership dues will be due as usual in November. Treasurer Ron Palcic will discuss this. A new membership card for 2020 will be issued when you pay your dues for next year. These cards serve as Observing Permits for the Cleveland Metroparks and for Letha House for after-hours observing.

* * *

Hope to see you at our meetings and other events! Please remember to welcome our new members!

*Clear Skies and Best Wishes,
Bill Murmann*

NOTICE FOR CLUB MEMBERS – AFTER HOURS OBSERVING

For years, CAA has had a special permit for its members to enter Cleveland Metropark reservations for star gazing after the park system's 11 p.m. closing time.

Recently, however, a CAA member told me he had a problem when he called the Park Rangers/Police headquarters to use the permit. They said they didn't know anything about it.

I contacted Metroparks' staff about this and have subsequently been told that the problem has now been corrected. The police staff are aware of the permit

Your current member ID card is considered an Observing Permit by the park police.

If you plan to enter or be in a Metroparks reservation for star gazing after the 11 p.m. closing time, you have to notify the park police (rangers) in advance by calling the non-emergency police number at (440) 331-5530:

- 1) Tell them you are a CAA astronomy club member.
- 2) Tell them what reservation you plan to enter or be in after 11 p.m.
- 3) Answer any questions they have.
- 4) When you arrive in the park, display your member ID on the dash of your vehicle on the driver's side. This is your permit.
- 5) Follow Metropark rules about parking and park use.
- 6) Follow the instructions of any park police you encounter.

Best wishes and clear skies.

--Bill Murmann
CAA President

NEW SERIES OF LECTURES – BW UNIVERSITY

Gary Kader, CAA member and host of the popular astronomy lecture series at Baldwin-Wallace University, has announced the start of the new fall program. Here is Gary's announcement:

Hi all,

Hope everyone has been having a good summer. Our first Burrell Observatory open house lecture is Friday September 6, 2019. As part of the 50th anniversary of the Apollo 11 Moon landing, Thomas Benson retired from the NASA Glenn Research Center will present a lecture on the Apollo missions that paved the way for that historic mission. **We will also have a moon rock and a space suit on display.**

The lecture will be presented in the Main Stage Theater located in the Kleist Center for Art and Drama.

This is a free lecture, however tickets are required. Tickets can be obtained on line at www.bw.edu/tickets, in person at the Kleist Center box office Monday-Friday, 12:00-5:00, or by phone at (440) 826-2240. The Kleist Center is located at 95 E Bagley Rd on the North side of Bagley Rd. at the corner of Beech Street.

See the flier below,

BURRELL OBSERVATORY OPEN HOUSE

FRIDAY SEPTEMBER 6, 2019 at 7:30 PM

The Burrell Observatory is proud to host an open house program on Friday September 6, 2019 at 7:30 PM. As part of the 50th anniversary of the Apollo 11 Moon landing, Thomas Benson retired from the NASA Glenn Research Center will present a lecture on the Apollo missions that paved the way for that historic mission. We will also have a moon rock and a space suit on display.

The lecture will be presented in the Main Stage Theater located in the Kleist Center for Art and Drama.

After the lecture, the Burrell Observatory will be open for viewing, weather permitting.

This is a free lecture, however tickets are required. Tickets can be obtained on line at www.bw.edu/tickets, in person at the Kleist Center box office Monday-Friday, 12:00-5:00, or by phone at (440) 826-2240. The Kleist Center is located at 95 E Bagley Rd on the North side of Bagley Rd. at the corner of Beech Street. The entrance is on Beech Street. Parking is available along Beech Street and behind the Kleist Center. For questions, contact the Observatory Director at gkader@bw.edu. Or the Department of Physics and Astronomy at 440-826-2312.

CAA CALENDAR OF EVENTS

Letha House Schedule 2019 and 2020

CAA has scheduled the following public star parties for 2019 and 2020 at Letha House park for the Medina County Park District:

2019

Saturday, May 11. Telescope Night starting at 8 p.m.
Saturday, June 8, starting at 9 p.m.
Saturday, July 13, starting at 9 p.m.
Saturday, August 10, starting at 9 p.m.
Saturday, September 7, starting at 9 p.m.
Saturday, October 5, starting at 8 p.m.

2020

Saturday, May 30, Telescope Night at 8 p.m.
Saturday, June 27, starting at 9 p.m.
Saturday, July 25, starting at 9 p.m.
Saturday, August 29, starting at 9 p.m.
Saturday, September 26, starting at 8 p.m.
Saturday, October 24, starting at 8 p.m.

SPEAKERS PROGRAM:

Monthly meetings feature a speaker followed by our club business meeting. VP and editor of the Observer, Tim Campbell is in charge of our speakers program and below is the current future lineup!

September 9, 2019

**Speaker: Professor Stacy McGaugh, Case Western University, Chairman of Department of Astronomy & Director, Warner & Swasey Observatory
“Dark Matter and Gravity in the Universe”**

Professor McGaugh will discuss his work on the search for Dark Matter and the possibility that DM does not exist and we simply do not understand Gravity! Professor McGaugh has co-published several papers outlining this controversial view. Hopefully, Dark Matter is not discovered before this September talk!

October 14, 2019

Speaker: Club Member and Cleveland State University Research Astronomer Jay Reynolds

Title: APOLLO 11 Fifty YEARS LATER

Jay will discuss the famed Apollo 11 Moon landing of 1969, along with the effects of the Apollo Program and NASA's next steps after the end of the Shuttle Program!

November 11, 2019

Speaker: Club Member Steve Gallant

"Catching the Sun: Robert McMath and the McMath-Hulbert Solar Observatory"

Located north of Pontiac, Michigan and opened in 1929, this was once the second largest solar observatory in the world. Steve will fill us in on this observatory's history and the current efforts to preserve and promote its continued use!

December 16, 2019 No meeting. Winter Dinner at Mahle's Restaurant in Westlake!

2020

January 13, 2020

Speaker: Club member and Club Secretary Trevor Braun

Equipment for Amateur Astronomy 101

Are you looking to buy a new, or perhaps upgrade/enhance your existing, telescope? Learn about the critical factors needed to make a decision, as well as some of the equipment and accessories you may want to consider as you begin to get ready for the 2020 observing season!

Reminder: our observatory is located in the Medina County Park District's

Letha House Park, 5800 Richman Rd., Chatham Twp. OH 44256.

CLUB TALK IN AUGUST

CAA CLUB HISTORY

Fellow members...I'd like to prepare a brief history of our club for possible use as a feature on our website. CAA was established in 1957. Can anyone tell me who started the club and give me details about its history over the years?

Some of our current long-time members include Gary Kader, Paul Leopold, Gus Waffan, and Mike Williams...

If you'd like to help tell our history, please let me know.

Best wishes.

--Bill
CAA President

HIGHLIGHTS OF OUR SEPTEMBER SKIES

Highlights of Our September Skies

Our thanks to Sky & Telescope magazine and to Orion Telescopes & Binoculars for help with this brief list of what-to-see in September. —by Bill Murmann.

* * *

Start of Fall—The Sun will reach its equinox this year at 3:50 a.m. on Monday September 23, marking the start of fall in the northern hemisphere. An equinox happens twice a year and is the moment at which the plane of the Earth's equator passes through the center of the Sun's disk. During an equinox, day and night are approximately of equal 12-hour duration all over Earth. There are two equinoxes every year—in September and March.

Northern Milky Way—Around 9 p.m. early in September, the "Summer Triangle" asterism formed by the bright stars Vega, Deneb, and Altair is high overhead. Aim your telescope at the northernmost section of the Summer Triangle to see vast fields of stars to explore in the northern Milky Way.

Milky Way's Twin?—The constellation Pegasus is noted for hard to find galaxies like Stephen's Quintet and the Einstein Cross. NGC 7331, however, is an exception. Known as the "Milky Way's Twin", this unbarred 10 magnitude galaxy is 40 light years away and can be spotted with binoculars and small telescopes under moderately dark skies. The twin status is now in question since the recent discovery that our Milky Way galaxy has a central bar in its core. NGC 7331 can be found at RA 23h 37m 04 sec and DEC +34° 24' 56". It was discovered in 1731 by William Herschel.

Spiral Galaxies—In September, spiral galaxies are well-placed for observing. Use a 6-inch or larger scope to see M31 in Andromeda, M33 in Triangulum, and M74 in Pisces.

Picturesque Whirlpool Galaxy—The Big Dipper asterism is still positioned high enough to help locate M51, the Whirlpool Galaxy, just below the handle of the dipper. You'll need an 8-inch or larger scope to get a good view of this huge face-on spiral galaxy, although it can be seen as a small object under dark skies with binoculars. M51, which is about 23 light years from us, was discovered by Charles Messier in 1771. It is interacting with a smaller nearby galaxy known as M51b.

Planetary Nebulas on Display—The Summer Triangle described above holds a number of planetary nebulas. Use a 6-inch or large scope and Sky & Telescope's "Pocket Sky Atlas" to find the famous Ring Nebula (M57) in the constellation Lyra, the Dumbbell Nebula (M27) in Vulpecula, and the Blinking Planetary Nebula (NGC 6572) in Cygnus.

Intense Color—Just outside the western boundary of the Summer Triangle, use a 6-inch or larger scope to see the intensely colorful planetary nebula NGC 6572. This emission nebula, known as the Emerald Nebula, was discovered in 1825 by German astronomer Friedrich George Wilhelm Von Struve.

September Globular Clusters—You can find three globular star clusters M15, M2, and M30 off the western side of the constellation Pegasus lined up from north to south respectively in the constellations Pegasus, Aquarius, and Capricorn. These are densely packed objects that have undergone core collapse. They each contain about 150,000 stars on average.

Double Cluster—Use binoculars or a wide field scope to see the sparkling Double Clusters located between the constellations Cassiopeia and Perseus. These open star clusters are 7,500 light years from Earth. Each cluster features about 300 blue-white super-giant stars with five prominent red super-giants mixed in.

Seeing the Veil—If you have a 5-inch or larger aperture telescope with an Oxygen III filter, see if you can find the supernova remnant called the Veil Nebula located almost directly overhead in the constellation Cygnus. Use a star chart to aim your scope at the naked-eye triple star 52 Cygni at RA 20h 45m 39s and DEC +30° 45' 10.9". One part of the Veil Nebula passes over 52 Cygni. The nebula is a collection of heated and ionized dust and gas that contains oxygen, hydrogen, and sulfur.

PHOTO GALLERY

From club member John Burkett:

Alright, I was talked into sharing this.

It's the first RGB image I've ever created, so there's much room for improvement.

I captured this on the 9th, before I crashed my mount.

I shot video until I had at least 1,000 frames of each filter, around a couple minutes per filter and between 40-90 frames per second.

I aligned & stacked the best 850 of each using AutoStakkert!2.

I sharpened in RegiStax6.

Then I opened a new document in Photoshop, changed the view to the Channels pallet, and pasted each image into the respective Red, Green and Blue channels.

The original capture was 128x128 pixels, I made the final image 512x512 so I could see what I was doing.

I captured the bubble nebula from the Letha house 11:30pm-3:30am, but I didn't process that yet because the stars all look funny, I had some sort of tracking issue.

-JohnB.



**A few Pics from our August 10 Public Star Party!
Pics by Tim Campbell**





THE MODERN PLANETARIUM – AN ARTICLE REPRINTED

Club member Ted Sauppe sent this article over. I am reprinting from the website delanceyplace.com.

Today's selection -- from *The American Museum of Natural History and How It Got That Way* by Colin Davey with Thomas Lesser.

In the 1800s and early 1900s, advancements and interest in astronomy had grown to the point that museums offered elaborate mechanical models of the planets and stars. The next breakthrough came with the first light-based planetarium, which opened in Munich in 1925:

"The father of the modern planetarium was Oskar von Miller, the founder and director of the Deutsches Museum (German National Museum), an innovative museum of science and technology established in 1906 in Munich. According to the 2005 book *Theaters of Time and Space: American Planetaria, 1930-1970* by Jordan Marche: 'As early as 1905, Miller sought to procure two mechanical devices for the museum's astronomical department. The first was a Copernican (heliocentric) planetarium, while the second demonstrated apparent movements of sky objects from a Ptolemaic (geocentric) perspective.'

"In 1913, von Miller commissioned Carl Zeiss Optical Works, a firm located in Jena, Germany, to build room-sized models of both types of planetariums. The Copernican planetarium proved to be fairly straightforward. For the geocentric planetarium, the scientists began by thinking in terms of a hollow sphere similar to the Atwood Celestial Sphere.

"Their efforts were interrupted by World War 1. But ultimately, the Zeiss engineers Walther Bauersfeld and Werner Straubel, along with von Miller, devised a breakthrough solution. Rather than having a large movable dome with the heavenly bodies affixed to it, they proposed projecting the heavenly bodies onto the dome with a moveable projector. A large staff of scientists, engineers, and others spent five years developing the invention, which was unveiled at the Zeiss factory in August 1923.



A Zeiss projector in a Berlin planetarium during a show in 1939.

"That same year, the Deutsches Museum's planetarium was built with a dome on the roof and a ceiling-mounted Copernican planetarium in the lobby below the dome. The planetarium opened on May 7, 1925. It proved an instant sensation. By September, two lecturers were giving nine demonstrations daily. And at the Zeiss factory, up to twelve demonstrations were being given every day, with standing-room crowds of up to six hundred people.

"One week after the opening of the Deutsches Museum's planetarium, the American Museum decided to send Fisher to investigate. In September, Fisher visited the Zeiss factory and the Deutsches Museum, and upon his return, he enthusiastically recommended a Zeiss planetarium for the American Museum's Astronomic Hall. As he wrote later in *Natural History*, the museum's magazine,

'Judging from the experience at Jena and at Munich, I believe it will attract more people to the museum than anything we have ever had here. When it becomes more widely known, it is sure to come to America. May the first one come to the American Museum of Natural History!' [a dream which came true when its Hayden Planetarium opened in 1935]."

MISCELLANEOUS ASTRONOMY

NASA/JPL Webinar September 26

Join the NASA/JPL Night Sky Network on Thursday, September 26, at 9 p.m. to hear Dr. Mitch Schulte, Program Scientist for NASA's Mars Exploration Program, present a live update on the Mars 2020 Rover program and its mission to find signs of life on Mars.

A link to view the program live on our home computers and other devices will be provided to CAA members through our private e-mail system.

Citizen Science—Meteor Project

Several times each year, Earth encounters meteor showers that are named for the constellations they appear to radiate from—such as the Perseids, the Geminids, etc.

The meteors are part of a gritty so-called "river of rubble" that is left behind after the passage of various comets.

The International Meteor Organization (IMO) needs help from amateur observers in conducting a comprehensive scientific study of meteor showers and their relation to comets and interplanetary dust.

If you are interested in helping with this project, check the IMO website at www.imo.net for further information.

FOR SALE OR TRADE

All:

Doug Horne is a club member who joined about a year ago. Here are three ads for brand new telescopes!

Orion SkyQuest 14" Dobsonian Telescope:

(Go-To GPS, motorized). Base has been assembled, and mirror has been successfully installed. In pristine condition, has never been used! Includes large weather shroud for assembled telescope, and custom-made canvas cases for transporting scope to remote sites.

50% off retail price paid by owner; canvas cases and shroud are a free bonus.

This is the perfect telescope for either an experienced aficionado, or for an astronomy club.

Contact Douglas Horne at 440-783-1987; or at e-mail: douglashorne112263@gmail.com

Orion Atlas 10" Newtonian Telescope with Equatorial Mount and Go-To GPS: Brand new telescope, not yet used. Padded canvas cover made by Orion for telescope tube a free bonus, at no extra charge. **Selling for \$1,300.00 (a \$600 discount).** Contact Douglas Horne at 440-783-1987, or by e-mail at douglashorne112263@gmail.com

Celestron 10" Advanced Newtonian Telescope (Model C10-N) with GPS Equatorial

Mount: Brand new telescope, not yet used. Padded canvas cover custom-made for telescope tube a free bonus, at no extra charge. **Selling for \$1,200.00 (a \$400 discount).** Contact Douglas Horne at 440-783-1987, or by e-mail at douglashorne112263@gmail.com

The "why" is a long story, not worth getting into. But all three instruments are pristine, have never seen first light, and are stored in a climate-controlled storage locker.

SECRETARY'S REPORT

Secretary's Report

Cuyahoga Astronomical Association

General Membership Meeting Minutes, August 12, 2019 7:30 PM

Treasurer's Report: Financial information stands as published in *The Observer*.

Secretary's Report:

- a.) The meeting minutes from July meetings stand as published in last month's edition of *The Observer*.
- b.) The club purchased a small tabletop reflector to use as a prize for the raffle at the annual convention in September at a cost of approximately \$60.

President's Report:

- a.) Thank you to those who supported our event at the Beachwood Library. We had an excellent turnout and a successful event.
- b.) Thanks to the Whistlers for hosting the annual summer picnic in the home.
- c.) The previous public event at Letha house was very successful, with roughly 70 guests and 10 telescopes in attendance.
- d.) There is no NASA Night sky Network webinar this month.
- e.) The motorized electric telescope pier has been shipped and is en route to the club.
- f.) The next Letha House public program is on 9/7/19 from 9:00-11:00 PM. Setup with begin at 7:00 PM.
- g.) The annual CAA OTAA convention will be held this year on 9/21/19 at Letha House.
- h.) Remember to check out our website for the club calendar and updates.
- i.) Reminder of Cleveland Metroparks, Medina County Parks, and Letha House Observatory rules.
- j.) Bill is putting together a history of our club. Please contact him if you have any interesting historical information or documents.

Vice President's Report:

- a.) Tim has obtained a copy of the Apollo 11 flight plan that he is contributing to the convention raffle.

b.) Reviewed upcoming program schedule through the rest of the calendar year.

Observatory Director's Report: Nothing to report.

Old Business: None

New Business: None

Observations were given

Meeting Adjourned 9:03 PM

Trevor Braun, Club Secretary

TREASURER'S REPORT

CAA Financial Report	Aug-19
Beginning Bank Bal.	7,840.46
Beginning Petty Cash	<u>190.56</u>
Total Beginning Cash	8,031.02
Income - Bank	
Memberships	55.00
Prepaid Magazine Subscriptions	66.95
Interest	0.07
Income - Petty Cash	
Donations	21.20
Misc.	200.00
Expenses - Bank	
Misc	200.00
Convention	56.95
Magazine Expense	66.95
Expenses - Petty Cash	
Refreshments	23.49
Misc.	50.00
CAA Newsletter/Copies/Postage	25.16
Net Bank	7,638.58
Net Petty Cash	<u>313.11</u>
Total	<u><u>7,951.69</u></u>

Ron Palcic, Treasurer

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CLUB MEMBERSHIP FORM

2019 Cuyahoga Astronomical Association Membership Form

Date: ___/___/___

Name: _____ Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ E-Mail: _____

**MAY WE PUBLISH YOUR PHONE (Y/N) AND/OR
E-MAIL (Y/N) IN OUR MEMBERSHIP LISTING?**

Membership Level: ___ \$10 Student ___ \$25 Individual ___ \$30 Family \$____.____

The CAA Newsletter, *The Observer*, is available free of charge on our website,
www.cuyastro.org. For a hard copy mailed to you, please include \$15.00 \$____.____

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*The Observer's Handbook 2018 ** – \$26.95 each \$____.____
From the Royal Astronomical Society of Canada.

***The cutoff date for ordering *The Observer's Handbook* is strictly December 11, 2019. Any money received after this date will be refunded. As always, the P.O. Box will be checked before final payment is sent out.**

TOTAL AMOUNT ENCLOSED: \$____.____

How did you hear about us? _____

Please make checks payable to: _____
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