

Winter, 2024

A Snowy Start and Mild February Observing

About 20 inches of snow in mid-January accumulated in parts of the grounds, which was at risk of becoming hard-packed in the cold. Thanks to the work of many MAS members, Jim, Lee, Scott, Mike, Mitch, Mark, John, Peter, Brian and Glenn Sarlitto, who also took the photo below, for hosting work party. Volunteers brought snow blowers, machinery and shovels to clear the grounds, rake roofs, and created pathways so the snow melted effectively and the observatory was in operation sooner! Early February Members nights in contrast, have allowed us snowless views during the new moon of Orion, and many other sights in mid-winter.

Remember to check our Google Group postings for any updates prior to Saturday Members Nights this winter in the event of a snow cancellation. Happy observing!



Upcoming Meetings

Members Presentation: The American Association of Variable Star Observers, (AAVSO) Director, Dr. Brian Kloppenborg, will be speaking to MAS members virtually via Google Meet, also streaming in person, at **8pm on Monday, Feb. 19.**

Meeting link is here: <https://meet.google.com/dnu-yaga-bke>

The **First Wednesday** meetings continue to be held in person at the Observatory grounds at **7:00 PM.** New members are especially encouraged to attend these meetings. It is a chance to gain hands-on experience, receive tips on how to get started and/or get more involved in the Club's activities.

The **Imagers Interest Group** continues in an all virtual format, on the **second Wednesday monthly at 7pm.** Please [join via this virtual link](#). These meetings will now combine membership with the Madison Astronomical Society.

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Renewals Due!

Last call for MAS
Membership
Renewal for 2024!

Go here to check if
you are overdue:

[Renewal Check >](#)

Treasurer's Report

\$9,218.98	Starting Balance as of 12/18/23
\$42.08	Expenditures
\$35.32	PayPal / Stripe fees
\$177.96	Annual Expenses
\$36	WE Energies
\$298.86	TOTAL Expenditures
\$1,376.00	Revenue
\$150.00	Membership dues
\$5	Private Donations
\$1,531.00	Grants
	TOTAL Revenue
\$10,451.12	Ending Balance as of 01/13/23

	Revenue	Expenditures	Net
December	\$2,021.00	\$535.81	\$1,485.19
January	\$1,531.00	\$298.86	\$1,713.65
February	\$1,078.00	\$683.18	\$394.82

Membership Report

Total Active Memberships: **352** (until March 1)

Membership to Renew in 2023: **84** (23.86%)

Membership Renewed thru 2024: **258** (73.3%)

Honorary/Founder: **10** (2.84%)

Please Remember to Renew your Membership—Last Call this Month!
Enter your email at: www.milwaukeeastro.org/renew to see if you are due.

Observatory Notes At-a-Glance

Abridged summary of general observatory updates:

Minutes from the January 15 Board of Directors Meeting: [Link to Notes, Recording](#)

Cub Cadet Tractor Lawnmower for Sale: Jill Roberts, MAS President, reminds members that we are looking for any interested buyers of prior, working, Cub Cadet Tractor lawnmower. If you are interested in buying this lawnmower or assisting in the used sale of this tractor this year, please contact jkrobertsmas@yahoo.com.

January Observatory Notes:

- Observatory parking lot and grounds cleared Jan 20 & 21 with the help of many Society members: Jim, Scott, Mike, Mitch, Peter, Mark, John, Brian, Glenn.
- Tour for Meno. Falls Astronomy Club on Jan 31. netted \$35.
- Battery for C scope needs replacing. Bought a 50Ah for \$100 from Paul B. for C scope. It is built with Lithium Iron Phosphate (12.8V 50Ah LiFePO4) technology, which delivers a steady charge over long periods and requires less maintenance than a traditional sealed lead-acid battery.
- Keyholder training has begun for John Koors, Mark Banyon, Peter Lakatos, Glenn Sarlitto and Jayanth Suthan.
- Mike W. has replaced the CFL bulb in "A" dome with a 60W equivalent dimmable LED and installed a shade to direct the light onto the steps and restrict it from blinding observers.

Mach 1 Mount and Stellarvue Telescope Operational Estimate:

John Koors has helped identify the additional equipment and associated costs to get the Mach1 mount and Stellarvue OTA telescope operational, conversing with Astro Physics to gather this information. The Board of Directors will discuss options on Monday, February 19 at 7pm.

(Continued on next page)

MAS Notes At-a-Glance (Cont.)

Nick Macakanja and a Boy Scout troop leader will be introducing themselves to the MAS this February to inquire about how they can help with a ramp in to the rear of the Quonset Meeting Hall. The Board of Directors will discuss the project on Monday.

Nicole Nelson, committee chairperson for cub scout pack 538, in Franklin, with boys and girls kindergarten to 5th grade, is looking for someone to do a presentation about the solar eclipse. They normally meet on Thursday nights, and are looking for a presentation on 3/7 3/14 or 3/21. If interested contact: nmnelson25@yahoo.com

MAS Gallery at Schlitz Audobon Nature Center—Matthew Ryno announced the MAS will be the focus of a second floor printed gallery of astrophotography from MAS members. The gallery is planned to take place in fall, 2024, starting in September 16 with a kickoff presentation on amateur astronomy and astrophotography being done in southeastern Wisconsin, followed by an ongoing gallery in the second floor through December.

All MAS Members with printed work are invited to submit photos for printing on standard print sizes. Members Matthew Ehresman, is also assisting with planning, and board member, John Koors, will be hosting a printing workshop, starting in March with a presentation for the imagers group virtual meeting where more details will be discussed on the gallery, and how to submit photos. Groupings of at least three photographs and details about each imager is suggested. Later on in spring, John will be hosting an in person meeting at the MAS on printing, followed by an opportunity to observe as we prepare to print member photographs.

Follow the Google Group for more information and email mattryno@gmail.com to get involved!

Binocular Observing Group— Board member Jim Bakic, has announce a binocular workshop and will be posting more details in our Google Group. The observing group would submit and learn how to get involved in the Astronomical League's binocular programs, while learning in general how to best target deep sky objects with binoculars.

Green Bank Star Quest— At the last Board Meeting, Sue Timlin mentioned having received an invitation and "early bird" registration form from the Central Appalachian Astronomy Club for their annual Green Bank Star Quest star party. It will be held at the Green Bank Observatory, July 3-6, 2024. The early bird deadline is March 31, 2024.

The CAAC website is: <http://www.caacwv.com>

The star party website is: <http://greenbankstarquest.org>

April 6 Solar Presentation — If you are interested in presenting on how to observe a total solar eclipse just a few days prior to the Total Solar Eclipse on April 8, please get in touch with Matthew Ryno or Jill Roberts with interest. We would like to offer a program for the public, if you will be around during this time.

Z-Dome Telescope Monitoring — The MAS is in need of USB powered Wi-Fi cameras to replace aging monitoring camera system in our dome, allowing operators to confirm telescope positioning is not at risk of a hit when moving remotely. Any members wishing to contribute cameras or monitoring systems should contact Jill Roberts.

Progress on Tangey Shed and E Dome Updates— John Koors, Russ Blankenburg, Lee Keith, Michael Bauer, have met and made progress on installing a CGEM mount in Tangey Flip Top dome and removing the original 12-inch Meade scope, in storage. Meanwhile the Mach1 mount is in place in E dome, and a counterweight bar is being installed, in preparation of handling a Stellavue Imaging Telescope. Estimates are being prepared for remaining costs for Monday's meeting.

Staff Updates

Treasurer, Sue Timlin, has served the MAS many years, and we will be looking for a new treasurer in May after she has announced retirement from this position. Thank you for your service!

Please contact potatosue.mas@gmail.com to inquire about volunteering for Treasurer.

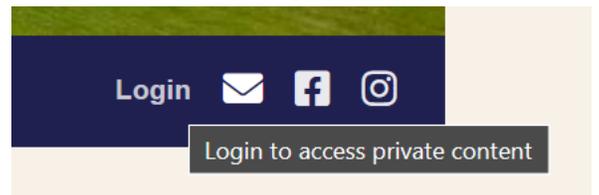
We are looking for members interested in note taking, assisting with our Google documents prep, and relaying important meeting information. Please contact mattryno@gmail.com for more info.

Minutes and Board Presentations

Reports, presentations, notes, for meetings are uploaded to the MAS Members documents section on the Milwaukee Astronomical Society website. Login to access, then go to [members > documents](#).

Reminder: New Members Page Login Access

Once you have logged in to the website, click **Members** to access the members menu. From here you can scroll down the page to view the latest keyholder calendar and contact information; announcements; past *Focal Point* editions; files and much more, including the latest observatory weather and cloud predictions. Login to access the *Members* page at: <https://milwaukeeastro.org/members.asp>



2024 Open House Dates

I'm pleased to announce our [upcoming public open houses](#) at the Milwaukee Astronomical Society in 2024. Please save the date and plan to come out and help us out! We are aiming to have two summer events for families, and will wrap up the year with a Spooky Sights and Science theme during the Wisconsin Science Festival on October 18. We will meet online as volunteers in March, April and May by Google Meet, to plan for these events.

If you would like to be involved in the Open House Planning Committee, or want to be counted as a volunteer rain or shine for the following dates, please email mattryno@gmail.com! We appreciate the help.

May 31 7:30-10pm Friday | Theme: Galaxies, Guest David Eicher Presenting

June 15 1-4pm Saturday | Theme: Summer Solstice Party

July 13 1-4pm Saturday | Theme: All-Ages Solar Observing

Aug 30 6:30-10pm Friday | Theme: NASA Deep Space Missions Update

September 27 6:00-10pm Friday | Theme: Planetary Exploration

October 18 5:30-9:30pm Friday | Theme: Wisconsin Science Festival, Citizen Science and Spooky Sights

Feature Article

Astronomical Drawings

Editor's Note: This is an article written by Lee Keith, acting Observatory Director. We will feature more drawings from members throughout the year. Please submit drawings to mattryno@gmail.com

Last fall, 11-year-old member Jacob Harris posted to the Google group his drawing of the Orion Nebula using the 6" telescope he won in an essay contest last year which was a donation from another MAS member. Hopefully, it will be one of many that he will make in the years to come.

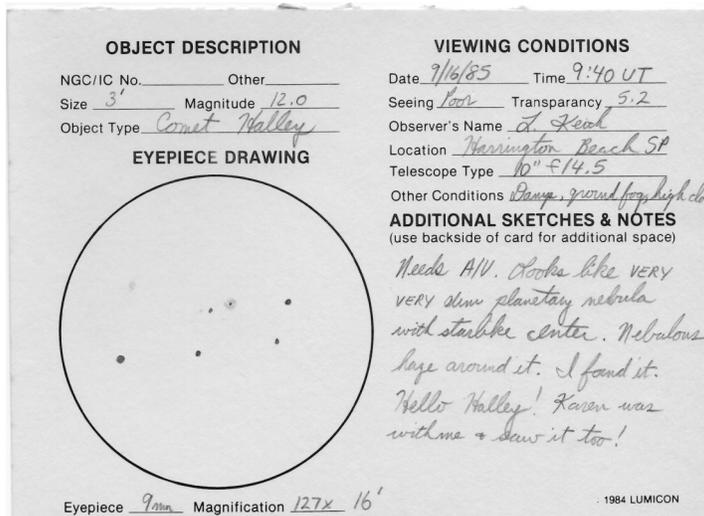
But these drawings are more than just the drawings themselves. They are a record of what one has seen with the telescope; a way to improve your observational skills by forcing you to look longer, harder and most importantly, creating a roadmap of your journey though the sky over your astronomical career. Priceless!

To emphasize this point, I want to show you just a few of the many, many, drawings I have made over my long astronomical career in the hopes that all Society members, especially the younger ones, will take up this activity to document their observational discoveries. I hope you are impressed and motivated enough to create a log of your astronomical life.

You don't need to be an artist either. I'm surely not one. There are templates you can use online or just a blank piece of paper on a clipboard, a few soft #2 pencils, an eraser and a red light is all you need.

Start by making a circle representing the view through the eyepiece. Next, draw a few of the brighter stars to serve as landmarks, then draw the object(s). For planets, the circle will be the planet. Make it about 2" diameter. Jupiter is notably oval, so a template is best, but using a circle is OK. Again, draw the most prominent bands or markings first and fill in details relative to those prominent features. For Jupiter, draw quickly as it will rotate noticeably in as little as 10 minutes.

You can do it! When you finish you too will have a record that you can not only show to others, but one you can look back at and admire with pride at how much you have seen!



This was the first time Halley was spotted visually by amateur astronomers. It was just before sunrise (4:40AM) and I had been up all night. At the same time at the Chicago Astro Society AstroFest in Kankakee, IL, other amateur were making the same observation. A/V=averted vision.

INDEX	PERIOD	INSTRUMENT	NOTES
5267	5/18/85	7" f/10 UT	Large, irregular, diffuse comet
	4/18	10" f/10	Comet observed at peak. Translucent
	4/18	10" f/10	10" f/10
4785	4/18/85	4" f/10 UT	Strongly faint, fairly large, round, deep, small
	4/18	10" f/10	Highly irregular, dark, a full disk
	4/18	10" f/10	10" f/10
5054	4/18/85	4" f/10 UT	Large, very dim, oval, small, light blue, floppy
	4/18	10" f/10	Centered with a comet
	4/18	10" f/10	10" f/10
4836	4/18/85	4" f/10 UT	Large, faint, light, bright, small, small
	4/18	10" f/10	Dark, highly irregular, faint, light, slightly
	4/18	10" f/10	Highly irregular
4845	4/18/85	4" f/10 UT	Large, faint, large, very dim, highly irregular
	4/18	10" f/10	Very irregular, faint, light, light, light
	4/18	10" f/10	10" f/10
4725	4/18/85	4" f/10 UT	Very large, light, oval, starlike nucleus
	4/18	10" f/10	Very, oval, dark, brown, light
	4/18	10" f/10	10" f/10
5516	4/18/85	4" f/10 UT	Small, hot, light, starlike nucleus, small
	4/18	10" f/10	Dark
	4/18	10" f/10	10" f/10
5637	4/18/85	4" f/10 UT	Very small, very faint, no resolution, hot
	4/18	10" f/10	Very, oval, dark, brown, light
	4/18	10" f/10	10" f/10
5877	4/18/85	4" f/10 UT	Large, very dim, diffuse, some resolution
	4/18	10" f/10	Small, very starlike, faint, light
	4/18	10" f/10	10" f/10
5694	4/18/85	4" f/10 UT	Small, faint, very faint, round, no resolution
	4/18	10" f/10	4x4 photo, small
	4/18	10" f/10	10" f/10
6316	4/18/85	4" f/10 UT	Small, faint, dim, 4" ground, small, to first
	4/18	10" f/10	Full disk, dark, light, floppy, star, a galaxy
	4/18	10" f/10	10" f/10
6304	4/18/85	4" f/10 UT	Small, large, faint, round, center, bright
	4/18	10" f/10	10" f/10

A page from my Herschel 400 log. This is one of 34 pages of written descriptions over a period of only 1 year. Was only the 20th person in the country to observe & record all 400 objects. I have a certificate & a pin to prove it!

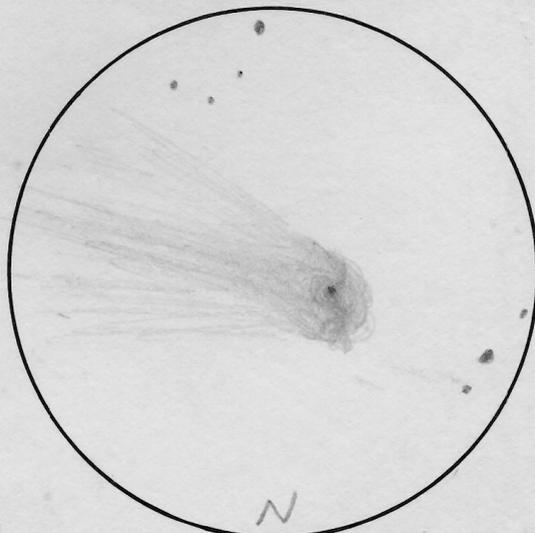
This is the proudest accomplishment of my astronomical career.

Astronomical Drawings

OBJECT DESCRIPTION

NGC/IC No. _____ Other _____
 Size 20' Magnitude 4.5
 Object Type Comet Hyakutake

EYEPIECE DRAWING



Eye-piece 16mm Magnification 71

VIEWING CONDITIONS

Date 3-16-96 Time 9:40 UT
 Seeing Avg Transparency Good
 Observer's Name L. KEITH
 Location FRANKLIN, WI
 Telescope Type 10" f/4.5
 Other Conditions 30° - CALM - LIGHT HAZE

ADDITIONAL SKETCHES & NOTES

(use backside of card for additional space)

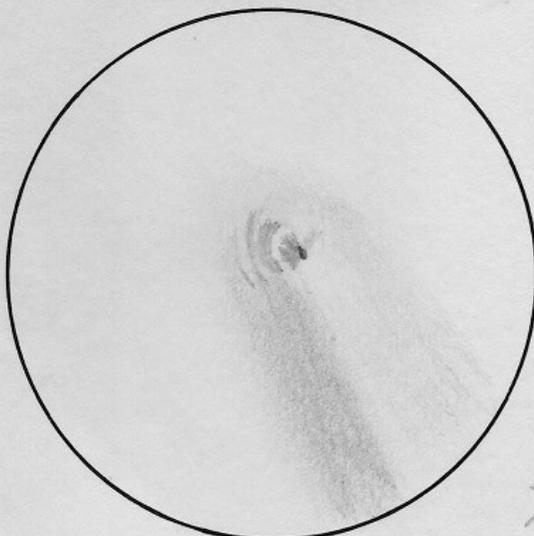
*Saw w/ naked eye through window!
 Coma large with several fans or jets
 seen. Small, bright nucleus.
 Tail almost 1° long with structure
 though faint. Multiple tails?
 Morig scope showed jet toward
 sun and others. Watch this one!
 In Libra.
 Coma seemed to be at least 30'
 with naked eye and 6" scope*

1984 LUMICON

OBJECT DESCRIPTION

NGC/IC No. _____ Other _____
 Size 20' DIA Magnitude 0
 Object Type Comet Hale Bopp

EYEPIECE DRAWING



Eye-piece 9.7mm Magnification 118x

27' dia

VIEWING CONDITIONS

Date 3-10-97 Time 10:15 UT
 Seeing Good Transparency Good
 Observer's Name Lee Keith
 Location FRANKLIN WI
 Telescope Type 10" f/4.5
 Other Conditions Patchy Clouds

ADDITIONAL SKETCHES & NOTES

(use backside of card for additional space)

*Tail ≈ 2°. Very bright! Brighter than
 Deneb. Coma asymmetrical; tail
 much brighter on one side. Nucleus
 is spectacular and bright! Highly
 unusual arcs partially encircle
 the nucleus. Arcs are about 90°
 and have sharp edges caused by
 shadows. Saw 4 arcs. Coma nearest
 nucleus is very detailed*

1984 LUMICON

Astronomical Drawings

OBJECT DESCRIPTION

NGC/IC No. 6514 Other H10, 11, 12^S, 41⁴ M20
 Size 20' Magnitude 7
 Object Type Emission / Reflection Neb

EYEPIECE DRAWING



Eyeiece 9.7mm Magnification 117x

VIEWING CONDITIONS

Date 5/27/87 Time 8:10 UT
 Seeing Good Transparency EX AT TIMES
 Observer's Name L. KEITH
 Location PRUDE RANCH TSP '87
 Telescope Type 10" F14.5
 Other Conditions PATCHY CLOUDS

ADDITIONAL SKETCHES & NOTES

(use backside of card for additional space)

DEEP SKY filtered. Trifid slightly smaller than drawn.

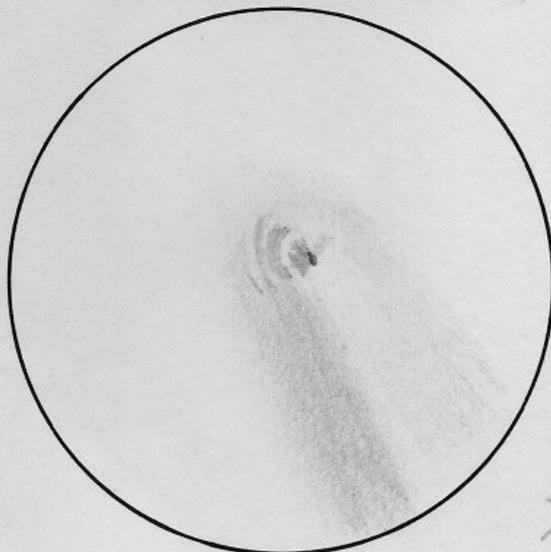
Lanes, four of them, were straight and clear of nebulosity. Beautiful sight!

1984 LUMICON

OBJECT DESCRIPTION

NGC/IC No. _____ Other _____
 Size 20' dia Magnitude 0
 Object Type Comet Hale Bopp

EYEPIECE DRAWING



Eyeiece 9.7mm Magnification 118x

27' dia

VIEWING CONDITIONS

Date 3-10-97 Time 10:15 UT
 Seeing Good Transparency Good
 Observer's Name Lee Kirk
 Location FRANKLIN WI
 Telescope Type 10" f/4.5
 Other Conditions Patchy Clouds

ADDITIONAL SKETCHES & NOTES

(use backside of card for additional space)

Tail $\approx 2^\circ$. Very bright! Brighter than Deneb. Coma asymmetrical; tail much brighter on one side. Nucleus is spectacular and bright! Highly unusual arcs partially encircle the nucleus. Arcs are about 90° and have sharp edges caused by shadows. Saw 4 arcs. Coma nearest nucleus is very detailed

1984 LUMICON

MAS Messier Marathons in March

Join MAS Members this March for a Messier Marathon on Saturday, March 9, for a night under the stars as we will attempt to visit as many Messier Objects as is possible in one day. Some members may also opt to do this on March 8, depending on weather. Please look for messages in the MAS Google Group for more information as we get closer to the date.

If it is clear, we are expecting to be at one of our [Dark Observing Sites](#): Ottawa Lake State Park Recreation Area, in the Southern Kettle Moraine, north of Eagle, WI, where we have [permission to observe](#) all night. If the weather looks clear closer to the event, and you have a truck, and are willing to help transport telescopes—please get in touch with leekeith1@juno.com to inquire about how you can help bring one of our larger MAS telescopes to our site for members to enjoy. We will have a Unistellar eVscope on site, and at the MAS, for fast tagging of Messier Objects at either site!

All other members with telescopes, plan to set up and share the views with other members as we try to locate as many Messier Objects as we can. For more information on what a Messier Marathon is, and what the Astronomical League offers for a Messier program, please [visit this link](#).

Yerkes Observatory Messier Marathon

The Yerkes Observatory will be hosting their own Messier Marathon., which will unfortunately fall on the same day as our MAS Members Messier Marathon.

If you'd like to visit the Yerkes Observatory Messier Marathon, view their site for more information: <https://yerkesobservatory.org/messier-marathon-open-house-and-schedule-of-events/>

Yerkes Observatory is seeking volunteers for a star party, and you may contact them if you wish to volunteer. Open House tickets are available on their website for attendees.



YERKES OBSERVATORY
MESSIER MARATHON
 Open House

March 9, 2024
 6:00 pm – 8:00 pm
 Rain or Shine

No parking on site
 Free trolley rides from
 Williams Bay School

Ticketed Entry Only
yerkesobservatory.org



April 15 Member Meeting at the Planetarium!

The MAS will once again host its third Monday membership meeting on site at an area astronomy facility—this year, at the Horwitz-DeRemer Planetarium in Waukesha, WI.

As usual when hosting at a new location, we will start an hour early at 6pm.

A planetarium show will start at 7pm for members to enjoy.

Look for more details closer to **Monday, April 15**, in the Google Group.

NGC 1333 in LRGB

Located 1,000 light-years from Earth in the constellation Perseus, a reflection nebula called NGC 1333 epitomizes the beautiful chaos of a dense group of stars being born. Most of the visible light from the young stars in this region is obscured by the dense, dusty cloud in which they formed. The nebula is in the Perseus molecular cloud, and located approximately 960 light-years away. This image is comprised of just over 24 hours of LRGB data, taken from my home observatory in West Bend.

Equipment:

Imaging Telescope:

Sky-Watcher Quattro
250P / 10-S

Imaging Camera: ZWO
ASI294MM Pro

Mount: Astro-Physics
Mach2 GTO

Filters: Chroma Blue 31
mm · Chroma Green 31
mm · Chroma Lum 31
mm · Chroma Red 31
mm

Acquisition details:

Dates: Nov. 22 - 23,
2022, Nov. 25, 2022,
Nov. 27, 2022

Frames:

Chroma Blue 31 mm:
120×180" (6h)

Chroma Green 31
mm: 118×180" (5h 54')

Chroma Lum 31 mm: 180×120" (6h)

Chroma Red 31 mm: 131×180" (6h 33')

Integration: 24h 27'



Image of NGC 1333 by Chad Andrist, with about hours of LRGB data from his home observatory in West Bend, WI.

Astrobin Full Resolution Image Link for Chad Andrist: <https://astrob.in/g26w15/D/>

Imagers Group Meeting: Status

If you missed our last Imagers Group Meeting, on the second Wednesday of the month, it featured a presentation by a guest, Dr. Alex Woronow, "Do Luminance Subs Improve Modern RGB Imaging Results", and a link to this presentation is available here: <https://youtu.be/RcZeM-SdPpk>.

Our next Imagers Group Meeting will feature a topic on printing photographs, presented by John Koors, and we invite imagers who wish to learn how to print their astrophotographs to attend. Matthew Ryno will be introducing a unique gallery opportunity at the Schlitz Audobon Nature Center, which will feature MAS astrophotographers. Learn more at our meeting and how to get involved.

As always, our meetings are virtual via Google Meet: <https://meet.google.com/mvr-jgwz-fft>.

For 2024, we are looking for MAS members interested in hosting this monthly gathering of astrophotographers. Please contact Matthew Ryno (mattryno@gmail.com) if you are interested in becoming a host and continuing this monthly resource for our astrophotographers.

What's Everyone Imaging?

If you haven't checked out our MAS site, go there first, via: <https://milwaukeeastro.org/showcase/whatsnew.asp>

Did you know you can submit any of your pictures via our website? It's a benefit of being an MAS member. To submit a photo, go to <https://milwaukeeastro.org/showcase/submit.asp> and you may be asked to log in next.

You can also join our Astrobin group! Submit a request to join here, and enjoy the latest pictures too from other members: <https://www.astrobin.com/groups/123/milwaukee-astronomical-society/>

We also enjoy it when you post in our Google Group on completion of a processed image, or ask for opinions in our Slack Group. Enjoy some of the latest Astrophotography!



Girish Muralidharan

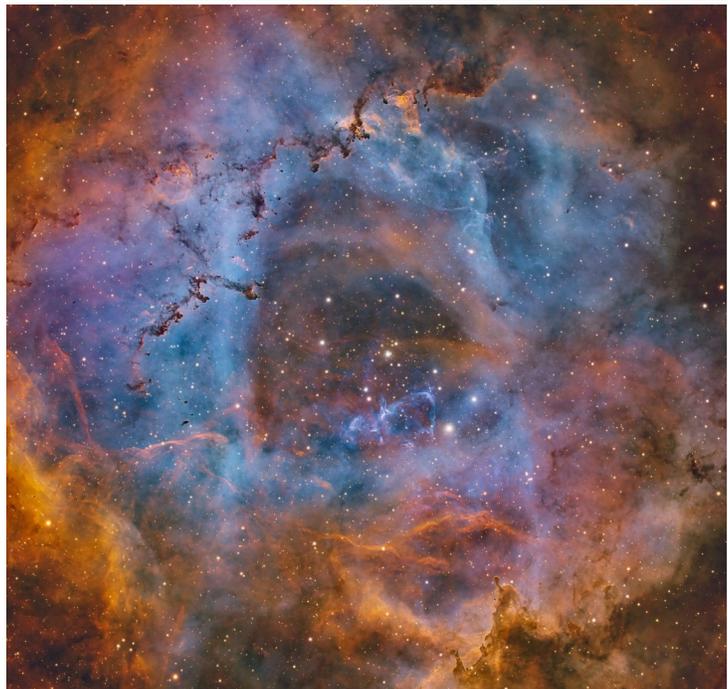
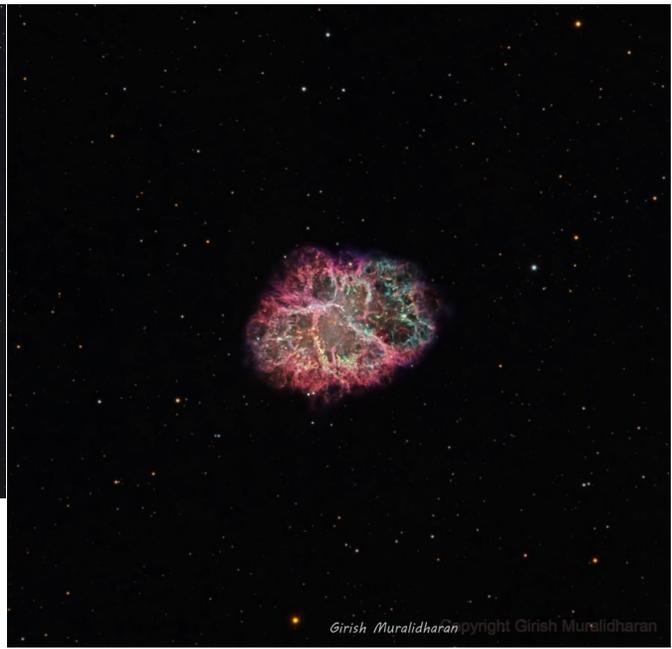
[NGC 281 Pacman Nebula](#)

Girish Muralidharan

[M1 Crab Nebula](#)

Chad Andrist Rosette in SHO

[The Rosette Nebula](#)



Help Wanted to Scale Our Observatory!

We're continually gaining new members and adding to our membership roster, and we're frequently in need of dedicated MAS members who have enjoyed being a member and wish to consistently contribute to the administration of our non-profit. One way you can help out is by becoming an officer, committee member or keyholder! The following positions are especially staff roles we're looking to add new names to, while our existing officers specialize in one or two roles instead of multiple roles.

Prior to May, when our officers are elected each year and Board Members are picked, now is a great time to try out these roles by shadowing an MAS volunteer currently doing these roles, to learn more about what is needed and areas of focus!

Treasurer — Sue Timlin, after many years of excellent service, will not be continuing on as a treasurer in the next year. While Sue is serving in this role, we're in need of a volunteer with interest in running the financial elements of our non-profits. Per Sue Timlin, "The most obvious duties, of course, are to deposit money in the bank account, pay bills, keep track of all account activity, and prepare a Treasurer report for the Board and the officers every month. Some other duties involve filling out one federal and one state form annually, maintaining sales tax exemption accounts with merchants, filling out a report for the City of New Berlin every other year, handling the account status and withdrawals from the Endowment Fund, and issuing tax letters to people who made donations to the MAS every January. Because the observatory is the only physical MAS location and there is no mail delivery there, the Treasurer's personal/home mailing address is used for all USPS mail for the MAS. Almost all of the mail received by the MAS directly or indirectly involves the Treasurer. I urge MAS members to seriously consider filling this crucial office in May. Anyone who is interested in serving the MAS in this capacity but would like more information or has questions, feel free to contact me, and I'll be glad to fill you in."

Secretary — After transitioning the MAS to an online and in person Google Meet hybrid meeting system, and beginning our automated recordings/transcriptions, I am looking to hand off the position of Secretary to another member interested in attending our MAS Meetings every Third Monday of the month and overall being an active officer and contributor. This is a great entry step into organizational administration, and having a new person in this role will allow more focus on other areas of the MAS.

Newsletter Contributor — MAS President, Jill Roberts, would like us to return to monthly newsletters, and we require more than one person dedicated to editing and writing articles for this newsletter. If you are interested in extrapolating information, researching and organizing dates and events, reaching out to gather information, and writing in a collaborative environment, please get in touch with me at mattryno@gmail.com to get started.

Social Media Contributor — We are a growing Astronomical Society and are constantly looking to stay relevant and on the newsfeed of the area public who might be interested in what's going on at the MAS. To keep up our presence online and raise awareness about astronomy, we're in need of regular contributors. Contact mattryno@gmail.com to get involved and join the team!

Keyholders — If you've been an MAS member longer than at least a year, and are interested in joining a rotation of MAS volunteers who take a selection of nights each year to be responsible for opening up the MAS and working with members rain or shine to make the most of the observatory, contact Lee Keith to express interest! As a bonus, you can then open up the observatory any night to observe. Email Lee at leekeith1@juno.com to learn more.

Unistellar eVscope Smart Telescope Station

January saw a number of updates to our eVscope Smart Telescope Station at the MAS. The first thing, is the Unistellar Application has now upgraded to version 3 ([read more here](#))! That's exciting news, and it brings a lot of new functionality to the Unistellar application and new updated firmware of our eVscopes once again. If you have downloaded the Unistellar application on your personal phone to use, please go into the Apple or Android application store and update your app.

Unfortunately, our older Android tablet, running Android 7 (released in 2016), is now no longer compatible with this new Unistellar application. If MAS members wish to donate a tablet, please email mattryno@gmail.com, otherwise we will seek a replacement. We do currently have one operational Android 13 tablet still running to use meanwhile. And our older Android tablet may still be used for running Stellarium or any field astronomy software. It is located on the charging table.



One new physical element you'll notice is that I've donated a charging station connected to a proper electronics surge protector, which will help protect the life of our smart telescopes plugged into our wall outlet. The old free power strip we were using did not have all outlets working, confirmed after many weeks of trial and error. It's my pleasure to keep these fine smart devices operating to peak efficiency well into the future. This charging station will also allow us to easily charge our tablets and batteries in one spot. Remember, all white charging cords go with our tablets, and black charging cords go with the Unistellar eVscopes.

The legs of all tripods have also been tightened. If you've noticed, our eV1 Unistellar eVscope, had never been raised beyond the second tripod level settings, which had caused people to call it the "mini" eVscope, despite having even more focal length and similar tube size as the eV2. This is now fixed, using the Unistellar toolkit in the charging station. Please monitor tripods when setting up regardless, so the bubble level is always in the center prior to attaching the tube. A weakened tripod leg support will show signs of support slippage out when putting mild pressure on the tripod prior to applying the eVscope. Also, never carry an eVscope outside with the tube connected to it!

Finally, if you are using the eVscopes for long periods of time in the cold, please take advantage of our heating strips which can be velcroid on to the external surface of our eVscopes to help keep the battery compartment warmer than the ambient air temperature, to extend battery life. You may also opt to connect a battery to the charging port on the tablet or eVscope. Remember to plug in to charge the batteries after use where you found them. If you'd like training on how to do scientific observations with these scopes, please get in touch with me at mattryno@gmail.com.

Wi-Fi extenders are also available with the eVscopes. I'd recommend using the eV1 when extending Wi-Fi. Once you plug in the eV1, wait for the red light to turn on, then plug in the first Wi-Fi extender to an outlet by the Quonset entrance (they are marked 1 and 2). Then, wait 30 seconds and plug the second extender in to an outlet midway in the Quonset. You can now connect to the extended Wi-Fi network from indoors, to control the smart telescope from the heated Quonset hall.

That's it for now. Please enjoy these telescopes, I'm pleased to keep this smart telescope station going at the MAS, and love it when we see multiple people using the scopes every members night!

Unistellar eVscope Citizen Science Updates

Citizen Scientists, if you're hoping to plan a night out with the eVscopes, please utilize the enhanced citizen science planner tool, now available at this link: <https://www.unistellar.com/scientific-events-prediction/> and of course, don't forget to join and register on Slack, and get trained on how to do it, just email me at mattryno@gmail.com and we can find a time that works.

I had a rare opportunity to take out the eVscope 2 to my backyard on February 13, 2024, to monitor a predicted asteroid occultation of a star involving Asteroid (105792) 2000 SK122. It was cold for set-up, so I let the eVscope get at least an hour of acclimation outdoors with the cap off of it. Then, it was a matter of staying awake until the time of the occultation, focusing about 20 minutes prior to the window of time, then slewing to the estimated coordinates. Once about to start, I recorded the time of start, began taking a video for 13 minutes, and recorded when I stopped my recording. I then did the same thing again for a 1 minute long observation with the cap on, to take a dark frame using the same observation parameters. I then recorded the time of my dark frame, and moved the telescope to the Home position, to take inside and upload data and report my observations to the researchers looking for these observation attempts. Noteworthy, during this process, is usage of an observing log which you can jot down notes during your observation. This helps, especially when you need to then report your observations into a form, and it helps you keep track of details such as the Sky Quality Reading at the time of observation, cloud cover, or a second dark frame, etc.

Alas, two days later, Unistellar researchers returned a negative observation attempt of an occultation—where an asteroid is expected to cross a star of known magnitude. Nonetheless, I still got a unique [processed video of the attempt](#), as well as a [light reading movie](#), which is very neat to look back on over time. Enjoy those links!

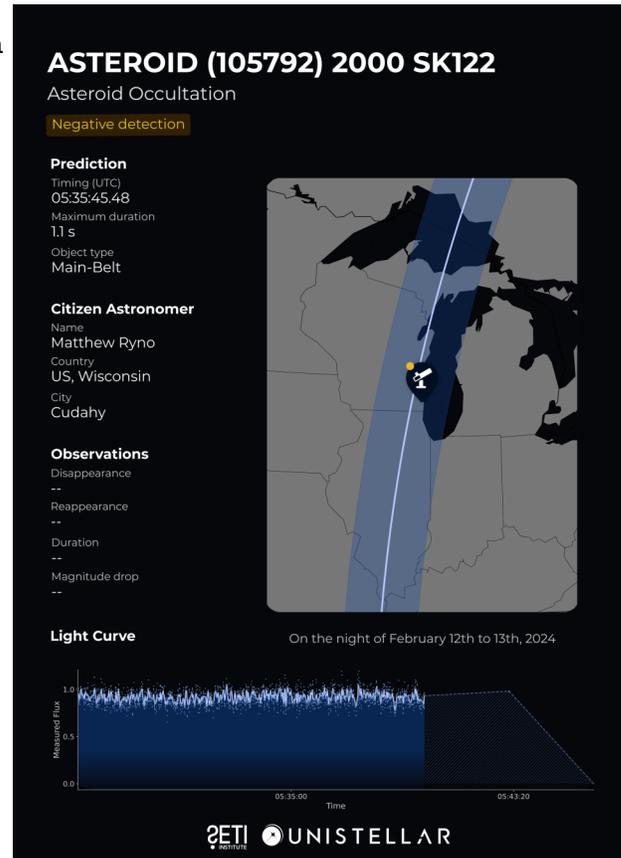
I will place a dedicated citizen science observing log next to our Unistellar eVscope Smart Telescope station, which all observers using our scopes can use to record their measurement parameters. -Matthew Ryno

Unistellar eVscope Reminders

Unistellar eVscope Application links here: [Google Play store link](#) \ [Apple link](#).

As a reminder, post some of your pictures to our showcase when you're out observing - we've started some picture sharing there already, so look forward to collecting many more fun pictures in the future: <https://milwaukeeastro.org/showcase/eVscope.asp>

View nearly 1,000 images we've collected since May with these telescopes, which you can browse here: <https://photos.app.goo.gl/ALfWtsZ6CzRm7QVj8>



Renew Your MAS Membership!

Renew your membership at www.milwaukeeastro.org/renew!
Enter your member email at that link to see if your renewal is due.
 This is our last call for renewals — through February.

We have connected with more members than ever, but need your continued support! Our Milwaukee Astronomical Society Observatory is funded entirely by you, our members, and we would love to see you around in our meetings, our email group, and at the observatory any Saturday next year. We have [Stripe and Paypal digital payment options](#) this year to easily renew, or a check may be sent by [PDF renewal form](#) in the mail to our Treasurer.

Rates remain the same as last year, at \$23/yr. student, \$46/yr individual, \$52/yr. family, \$28/yr non-resident memberships. Optional donation amounts are accepted also by form.

If you're considering giving the gift of MAS Membership to friends, neighbors and co-workers, please visit our [Gift Application Form](#), which also accepts Stripe/Paypal.



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