



Youth Telescope Giveaway Contest Winners!

Nathan Endres took home a like new Orion XT8 telescope earlier this month during our first Wednesday meeting, and Greta Glick-Mitchell received a 70mm National Geographic refractor, “so she can get her perfect picture of the Moon!” said Lee Keith, Observatory Director and creator of a telescope giveaway essay contest. “Congrats and good luck on their beginnings as an amateur astronomer.” Lee said.

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- Keyholder Duties

Open House!

Our First Open House of the Year is on May 31st, and later on June 15th.

Check the list of upcoming events:

[Open Houses >](#)



“Thank you to Lee, the donor, and everyone at the Milwaukee Astronomical Society! Greta is thrilled with the telescope! She has already been enjoying the moon with it!” said Mitchell Johnson, on behalf of Greta.

Continued on page 8

Greta (top) — Lee Keith (left) Nathan Endres, (middle) Craig Endres (right)



Upcoming Meetings

Board Meeting and Annual Meeting of the MAS: Monday, May 20th, 7pm

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

In person Quonset attendance encouraged for those seeking elections.

All officers 1 year terms, and 3 board memberships are up for term end election.

We also will discuss committees needing help, and opportunities to get involved—no astronomy experience is needed, just consistent enthusiasm!

Friday, May 31st at 7pm is our first open house of the year, featuring Astronomy Magazine editor David Eicher, one of the most widely recognized astronomy enthusiasts in the world. He has been with Astronomy magazine for 36 years, and the magazine’s chief editor since 2002. To help with this open house, no astronomy experience needed to help set up tables, prepare the observatory and help with the public - please plan to stop out Friday night, email mattryno@gmail.com with questions.

Treasurer's Report

\$11,124.99	Starting Balance as of 04/13/24
	Expenditures
\$25.66	PayPal / Stripe fees
\$169.98	Annual Expenses
\$143.59	WE Energies
\$1,269.31	Periodic Expenses
\$1608.54	TOTAL Expenditures
	Revenue
\$813	Membership dues
\$21	Donations
\$0	Grants
\$834.00	TOTAL Revenue
\$10,350.45	Ending Balance as of 05/18/25

	Revenue	Expenditures	Net
February	\$1,078.00	\$683.18	\$394.82
March	\$737.00	\$228.23	\$508.77
April	\$1,377.00	\$1,606.72	-\$229.72
May	\$834.00	\$1,608.54	-\$774.54

	Reserve	General Funds	Equipment Funds
May	\$5,187.74	\$2,435.17	\$1,910

Membership Report

Total Active Memberships: **307**
 Family Memberships: **166** (54.25% of 307)

Help Needed for our Open House on May 31st to set up tables, lights, set up signs and clean. Please stop by on Friday, before 7pm as possible. No Astronomy Experience Needed! Bring your telescope to set on the pads, or attend one of our scopes to keep it on target.

Observatory News at-a-Glance

A quick summary of observatory director notes and a summary of decisions from board meetings, including MAS news or tidbits of information from February to May.

April Observatory Notes:

- The MAS has accepted a donation of a Sky Watcher 80mm APO refractor and iOptron mount with tripod. The iOptron mount (ZEQ-25) will be evaluated by Matthew Ryno and Jay Suthan starting in June for adaptation as a portable astrophotography rig to our scope lending pool.
- All the wood & brush from the Observatory grounds has been removed during the annual cleanup April 27.
- Training of 4 more keyholders (Mark B, Glenn, John K., Jay) continues. Two have been assigned to each of Gene Hansen's dates (June 1 & 8) as a "dress rehearsal" of their newfound skills.
- Progress on the 5" refractor in E shed continues. First light was last week with a pic of the Moon. John K. is making some last-minute changes and it should be ready to go by next month.
- Thank you to the Horwitz-DeRemer Planetarium for hosting our April Board Meeting and offering a view of the Aurora show afterward during the members meeting.

March and February Observatory Notes:

- The eclipse party on the 8th was well attended and supplied with treats. The Solar Observatory has never been more popular! The Solar Observatory door was fixed
- The Gravely mower was at Olson's in Muskego for some minor service.
- Locks on A & Z dome changed as well as the keycode on the north door of the Quonset. New keys will be distributed. Please contact Lee Keith for any questions.
- Cub Cadet Tractor Lawnmower Sold! After seeing a post in our Google Group, a lucky recipient took home a great deal on our former lawnmower. Thank you for your interest!

- Plastic solar finders 3D printed by Mark B. were put on A, B and C scopes by Lee K.
- The 12" Meade SCT has been put back on its fork mount and repaired by Mike B. and is functional except for the hand controller.
- Vicki and Dave Jensen have donated an 8" Orion Skyquest XT8 Dobsonian telescope.
- A presentation by Matt and a tour for a Cub Scout den, pack 538, in Franklin, was given by Matt, Lee & Dhruva on March 14th. We got a \$250 check and will be offering a couple memberships in exchange.
- A Cudahy Library Talk by Matt Ryno, netted \$129 in donations and interest in piloting a Library Saturday Night Members Night Guest Pass, which Matt will be developing and working on this summer.

Additional Notes:

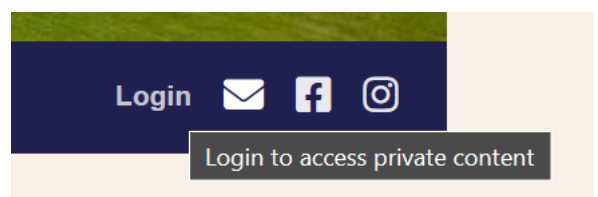
- The Milwaukee Astronomical Society is upgrading its lock systems, utilizing a more efficient key entry system. Our front gate will remain open and accessible for all members to open and use the observatory site any time. Bathroom access will **not** be available after hours (defined as: when a keyholder is not present), so please plan ahead. Wi-Fi access is available outside 24/7.
- Construction will be occurring on the rear, North Quonset entrance at a time to be announced this year. A new stair and ramp system is to be installed.
- We have added a variety of telescopes to our MAS Loaner Telescope Program, which allows members to rent out telescopes for use at home. For more information, view our loaner telescope program webpage at: https://milwaukeeastro.org/members/equipment_loan.asp
- As a member of the MAS, you have a benefit and may download the app [Astrospheric](#), used by many members to predict whether it will be clear a few days ahead of time for planning purposes. Use this join code once you have installed it, to join our MAS Group: **S_d1bfdd7a**
- We are in need of a virtual imagers group leader, to seek out and procure astrophotography speakers. Matthew Ryno is our interim meeting host. Contact mattryno@gmail.com if you are interested in taking the lead. No astrophotography experience is required as long as you're curious in the topic and willing to seek out and procure speakers and host / moderate meeting discussions virtually.
- We are also in need of members who would like to create a speaker schedule and activities schedule for the MAS membership. Absolutely no astronomy experience is required. Please get in touch with an officer or board member to talk more.

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: 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/>



2024 AL Region Award Winner

It was a great honor to receive the Region Award from the North Central Region of the Astronomical League (NCRAL) this weekend during the annual conference held in De Pere, WI, representing the Milwaukee Astronomical Society during their meeting. It's a big accomplishment, and my heartfelt thanks goes out to the selection committee at NCRAL, and to the supportive MAS members, board members and officers who nominated me to receive this top award, given once a year to an amateur astronomer in our 6 state region. Including the Milwaukee Astronomical Society, NCRAL comprises roughly three dozen associations scattered across the upper Midwest, from Illinois, Wisconsin, Iowa, Minnesota, Upper Peninsula of Michigan, North Dakota, and South Dakota.

The skies were also SQM 19.05 at the Paramentier Observatory on Friday, and it was a lot of fun to use the 30inch Cassegrain telescope on site with MAS member and Racine Astronomical Society Board Member, Scott Lancelle and two other NPMAS members until 12am. We tried the ring nebula at about 1000x magnification that night! It was a fun try. Of course, I'd brought a bunch of telescopes, including my Unistellar eVscope 2, Vixen 90fl and binocular mount, so I stayed until 2:30am despite the moon since it was still better skies than my backyard - with some added cow sounds in the background. Another MAS member, Frank Smith, also joined us at the conference and it was good to say hi! Oh yea, [the print that MAS board member John Koors printed for me](#) during our photo printing workshop took a third place award for widefield imaging! I'll add it to my gallery display for this Fall for sure.

If you go [back to the history of past winners](#), the Milwaukee Astronomical Society now has **three** Region Award recipients from our organization:

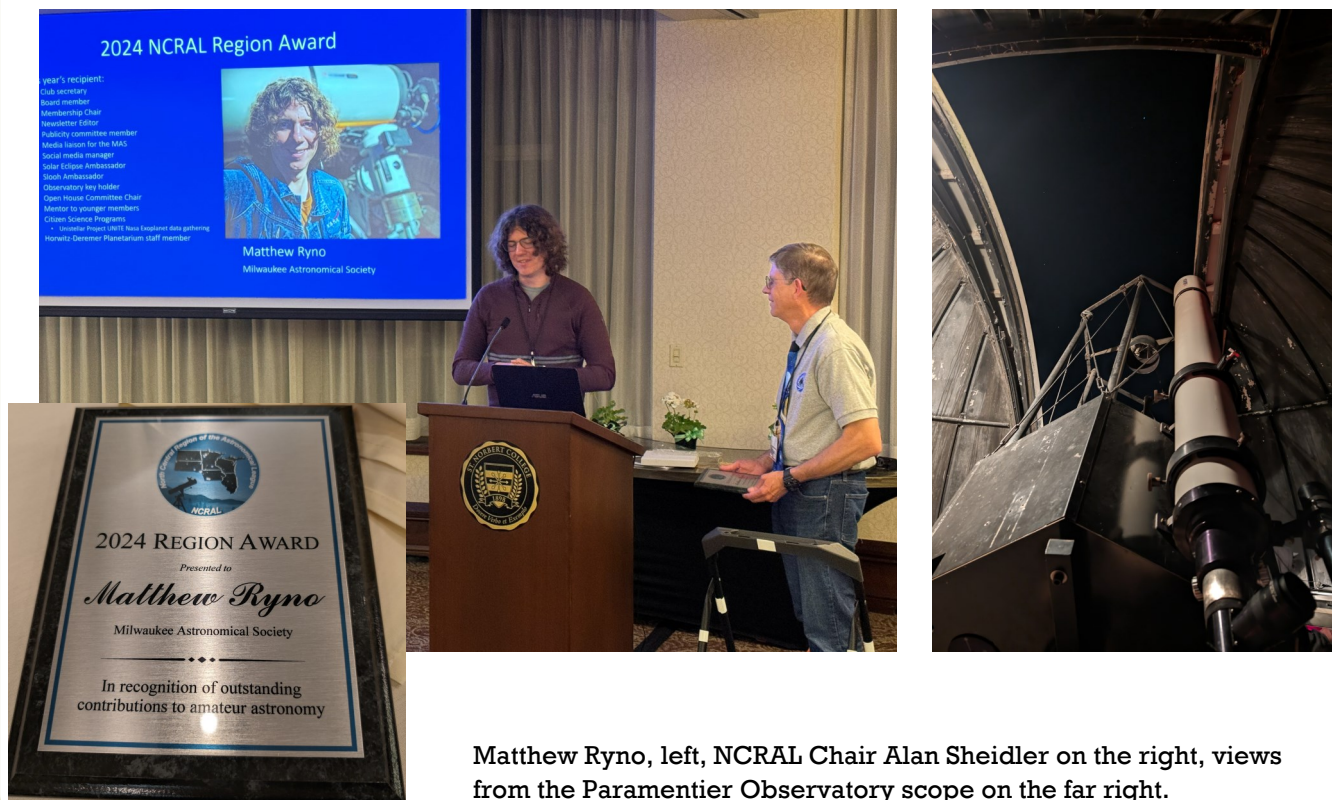
1989: Berton L. Stevens

1992: Dan Koehler

2024: Matthew Ryno

So, let's try to keep the momentum going! If you'd like to help work with a winning team, stop out during our membership and general election meeting this Monday, May 20, starting at 7pm. We need your help on committees, programming / speaker procurement, open house planning and setup, gallery event help and much more, so even if you're not going for a specific role at the MAS, there's so much knowledge and skills our 307+ members have to contribute, so I'm happy to help in any way I can.

—Matthew Ryno



Matthew Ryno, left, NCRAL Chair Alan Sheidler on the right, views from the Paramentier Observatory scope on the far right.

New Entry-Level DSLR Imaging Capability on the way!

While we currently have two sophisticated imaging setups in the F shed and Z dome, they require extensive training and experience. Many members have expressed a desire to start imaging the wonders of our universe, but no entry-level setup was available.

A beginner's imaging rig is being built in the Z2 shed. Last year, the club acquired a Stellarvue 5-inch refractor and an Astro-physics Mach 1 mount. The setup also includes a DSLR camera optimized for astrophotography and a laptop with the planetarium and image capture software.

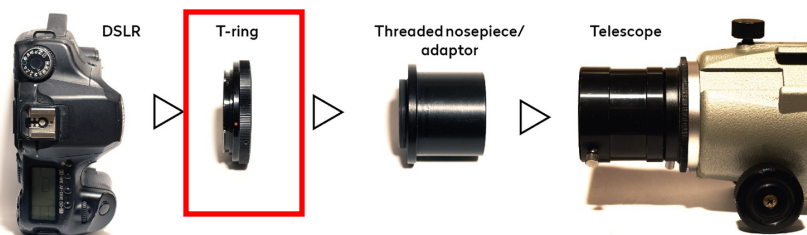
We expect to finish the installation and configuration in the next few weeks. As part of the rollout, we will offer training sessions on the use of the equipment and the process to get your images onto a flash drive.

We are very excited to offer this capability to our members and look forward to seeing your images. Stay tuned for further updates.

Special thanks to Lee Keith, Russ Blankenburg, Jim Bakic, and Mike Bauer for their help in moving this project forward. Here is the first image we captured. This is straight from the camera with no editing. — John Koors



Observatory Director, Lee Keith, notes that if you would like to use a camera other than a Canon, you may need to bring a 1.25" T-ring adapter that is specific to your camera brand. Our observatory does have multiple Canon DSLR cameras and astrophotography software, which is currently available for use in the Z dome control room shelves. An example T-ring adapter is shown below for reference— it is possible we would acquire more adapters for key brands, as we approach readiness as well! Russ Blankenburg highlighted a T-ring adapter below as an example:



Updates At-A-Glance

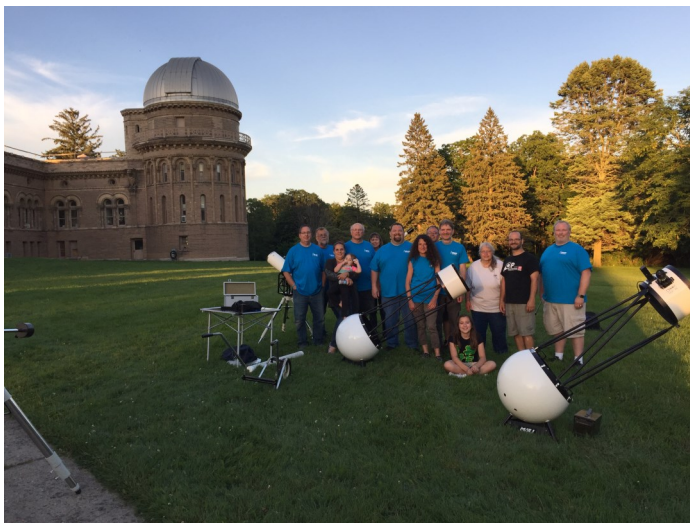
Observatory Ramp and Stair Eagle Scout Project: Nick Macakanja's ramp and stairs Eagle Scout design was reviewed by the MAS Board of Directors earlier this year and, feedback was provided. Since then the project was recently approved by the Scout Council. As of May 1, he is getting ready for the project. He will be working on scheduling when the auger person can dig the holes for the ramp, the workdays for his Eagle Project are **June 8th @1:00 pm - 6:00 pm and June 9th @9:00 am - 2:00 pm**. The supplies are being delivered to my house and if the weather is poor we can work from my family's barn. Is there water on site for mixing the concrete? So far I've fundraised \$1,355 (including the \$500 from MAS), and I'm working on getting donations from the lumber yards.

MAS Gallery at Schlitz Audobon Nature Center:

Member Craig Endres has offered his wood shop for assistance creating astrophotography frames. He has dropped off a sample for review on Monday. Shown on the right, costs for production of such a frame would be \$10 each for 5x7 images, and \$15 for 11x14 images. John Koors has also found [Hobby Lobby frames](#) he would recommend ranging in sizes of 5x7 to 16x20 for any images we cannot place into custom frames. Member Matthew Ehresman has also offered assistance in making frames from black walnut wood. Discussion at the board meeting on Monday may center on cost coverage the MAS is able to offer to defer costs to members who wish to have framed work they may take with them. Membership input is encouraged as we share our lowest cost expenses on frames, after previously noting print costs to support this project.



Mag 1 Ball Scope in Z Dome: MAS Board Members will meet on Monday, May 20, to discuss future use of the club's Mag 1 ball scope with a Zambuto mirror. Some board members have suggested exploration of a divestment strategy, while others are interested in a focus on using this scope for outreach and utilization at remote sites. A key feature of this telescope is ease of operation as the ball allows eyepiece location in a convenient spot. A drawback is weight and no electronic assistance. Light pollution encroachment and utilization of a visual telescope was also discussed, when other larger telescopes are available already. The telescope was from Mag 1 Instruments which was a company by Peter Smitka. Peter was a long time member of our club serving on the Board and was our President for two terms. He passed away in 2013. Gene Hanson has provided a picture of this telescope from past Yerkes Observatory events in 2017— where members would set up every year. A look at the compacted scope is also shown, when folded down for transport.



Musings from an Astrophile by Karen Wesener

Editors Note: This column will be continued in Focal Point editions this year, look for more!

Not all astrophiles are created equal. They may be quite fluent in all things deep space, planetary, solar or lunar. Some are equipment geeks; some are most interested in space exploration; others may be happy just looking around the sky with the unaided eye. And, of course, some would check off "all of the above."

I am one of the "happy just looking around the sky with the unaided eye" people. I've done some of that other stuff - found the Messier objects using charts and star hopping, documented Saturn as it did its retrograde thing, even observed and recorded a few lunar grazing occultations. Mostly though, I like looking at the sky without equipment, any time of day, to see if there is anything interesting there. I've also enjoyed learning about sky lore, myths and legends.

My name is Karen Wesener and I was approached about doing a general interest column for the Focal Point, so here I am. I've done this before - having written a bi-monthly column for a local newspaper many years ago as well as providing weekly information to a local meteorologist to use in their TV weather segment. Some of you may know me as the wife of Lee Keith. (How could I possibly be married to him and not have some interest in astronomy?)

As a kid, growing up in rural Manitowoc county with a fabulous dark sky, I saw a glorious Milky Way and an occasional Aurora which my Mom could not really explain as we watched it in awe. Back then, I did not know about telescopes for amateur astronomers or much about the sky in general, it was just pretty to look at.

As I got older, my technological knowledge expanded and so did my knowledge of the sky stories from various cultures. In this column I will tell you some of those stories and also talk about naked eye astronomy that is accessible to nearly everyone. I hope it will be of interest to the full range of Society members - whether you check off all of the above, are happy just looking around the sky with the unaided eye or are somewhere in between.

—Karen Wesener

Feature Article

Get to Know our Telescope Essayists

“I just wanted to thank the club for the telescope I won,” said Nathan Endres. “I’d especially like to thank Mr. and Mrs. Jensen, who donated the scope. I’m sure to get a lot of use out of it.”

Nathan and his father, Craig Endres, have been observing with Board Member Jim Bakic recently, as they work on finding Messier objects in the evening sky with binoculars using a Celestron Skymaster 20x80 binocular, and have been extremely happy with them. Craig added a tripod from Amazon to hold the binoculars to get objects tall enough to see objects straight overhead. With filters, they were helpful for eclipse viewing as well, as pictured on the right—Nathan using the binoculars during the solar eclipse.

As of the end of April, Craig reported they were last at 27 objects of the 50 objects required so far by the [Astronomical League Binocular Observing Program](#), tackling the “easiest” ones first. No doubt a telescope will help with finding the even deeper dark sky objects!

The first recent MAS scope giveaway took place last year in 2023, and 11-year-old Jacob Harris received his Criterion RV-6 telescope at the time. Lee Keith is hopeful that more telescopes can be used for giveaways for our family memberships, and has recently received interest by Horwitz-DeRemer Planetarium director, Lisa Swaney, who is interested in finding more telescopes to donate.

He has asked runners up Jay and Whitaker to hang tight, as he hopes to find a home for a future donation. If you wish to donate a telescope, please contact our Observatory Director, [Lee Keith](#).

Lee is not sharing his judging process, so we’ll never know if he picked youngest first, to oldest for sure... but it appears like everyone will be a winner.

Please enjoy, and a big congratulations to everyone for taking part in this family-fun activity—we’re looking forward to seeing observing reports in the future and Jay will soon be involved with testing a recently donated imaging telescope for experience and loaner scope preparation.

We wonder if any HAM enthusiasts and members of the MAS know of any HAM gear that Whitaker might be interested in after reading his essay entry on the next few pages...



The runners-up, Jay, Greta and Whitaker all got their choice of exclusive signed and numbered Jupiter posters taken with MAS A scope by Lee Keith.

Essay Contest: Nathan Endres

My name is Nathan Endres and I'm an 8th grader at Oak Creek East Middle School. My interest in astronomy started about a year or two ago when I started going to the Racine Astronomical Society Observatory. After a few months of going to their open houses, I went to an event at the Milwaukee Astronomical Society (MAS) surrounding the October 14th annular solar eclipse. After that event—and a talk I attended later that evening—I discovered all that MAS had to offer and decided to become a member. Since then, I've broadened my horizons to include much more than what I was originally doing at the Racine observatory, which was mostly just looking at the planets and the Moon. Since becoming a member at MAS, I've begun solar observation and deep-sky astronomy.

I attended the Messier Marathon that was held on March 10th, and started the Binocular Messier Marathon shortly afterward, a program issued by the Astronomical League that challenges participants to observe 50 Messier objects with binoculars. So far, I've observed 24 objects across a couple of different states during my travels, and I'm eager to find even more on every clear night I get. Over spring break, I visited the U.S. Space and Rocket Center in Huntsville, Alabama, which I would've explored forever if given the time. Most recently on April 8th, I traveled to Bloomington, Indiana in the path of totality for the total solar eclipse. I observed the Sun's corona along with a few prominences along its edge during totality, which was amazing!

Throughout my time at MAS, I've borrowed the loaner scopes a few times, and this telescope would be very useful for when I want to observe when I don't have one of these loaner telescopes. I would also love to show my family members and friends this telescope and attempt to spark an interest in astronomy for them as well and teach others about my favorite hobby. In the future, I hope to continue taking astronomy and engineering classes with the goal of someday becoming an astrophysicist or aerospace engineer, while continuing my hobby as an amateur astronomer.

Essay Contest: Greta Glick-Mitchell

Hi, my name is Greta Glick-Johnson, and I live in Brookfield, WI.

I became interested in astronomy because when our family became members of the Milwaukee Astronomical Society, my dad would come to the MAS and sometimes I would come with him. At the MAS, we would look at amazing pictures and learn about incredible things in space. For example, I saw Saturn and Jupiter, Jupiter's 4 big moons, our moon, galaxies like the Vacuum and Surfboard galaxies, the Horsehead and Orion nebulas, the sun, and the solar eclipse. I also went to the Adler Planetarium in Chicago. At the Adler Planetarium, I and my family saw a show that was about how people tried and finally traveled to the moon and how people know all the stuff about astronomy that they do today and more. All of this stuff fascinated me so much, but there is still so much stuff that we don't know about space, which is why I still want to know more of the phenomenal things about astronomy. We only know 4% out of 100% of astronomy. That's how I became interested in astronomy, and that's some observing I've done of the night sky (some with my dad and some at the MAS).

If I ever won that telescope, there would probably be 1 million things I'd do with it (not exactly 1 million things, just a lot). I would look through it, find all the stars, let other people look at it, etc. There's so much I would do with it that I probably can't name them all. I really hope that I win it, but I will be happy for whoever does win it. After all, who wouldn't want to win a telescope?

Essay Contest: Whitaker Carmichael

Dear Mr. Keith,

My name is Whitaker Carmichael, and I am a sophomore at Mukwonago High School. I have had a fascination for space before I can even remember. When my mom learned of the MAS from another member, she knew it would be great for me. Thus, my family became members back in 2016. In those early days, I actually won a model solar system kit which I assembled and still have on a shelf in my room. Following my excitement for the MAS, my space loving Grandpa, Mike Wagner, also joined. You can still routinely find my Grandpa and I out on the grounds after dark. My time at the MAS is limited only by my other STEM interests such as HAM radio and robotics. You can find me more than 20 hours per week working on the electromechanical team for the FIRST Robotics Mukwonago BEARs Team 930. The team has qualified for the World Championship in Houston, Texas both years I have been a member. I became interested in HAM radio when my grandpa began his HAM journey. Soon after, I took the test for my technician license and was assigned the call sign KD9TBF.

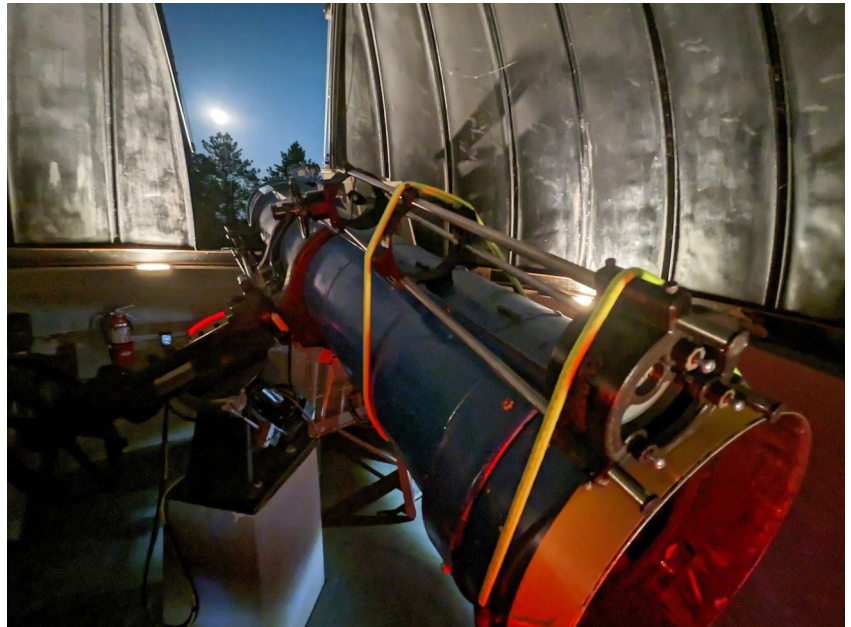
I have spent countless hours at the MAS observing various stars, clusters, planets as well as learning how to take photographs of planets like Jupiter and Saturn. On a more personal level, I have been very fortunate to do some travel for "space events." In 2017 my family and I traveled to Wyoming for the total solar eclipse. This learning experience was prompted by the passion for such events by other MAS members. We camped at Harrington Beach during the Persied meteor shower. We have gone to Ottawa Beach to observe a comet. I was incredibly fortunate to witness the Aurora Borealis from my backyard in Eagle, Wisconsin last April. Most recently, we traveled to Fairdealing, Missouri and were fortunate to have clear skies to witness my second total solar eclipse.

Last year, I 3D printed and assembled a Hadley 4 inch telescope. I have used it in my backyard to observe the moon, Pleiades, Orion nebula and some other objects. It does not rival the instruments at the MAS site, but it is my current telescope. If I were awarded the Orion Skyquest XT8 as well as the impressive selection of eyepieces, I would certainly continue to seek out more "space events" such as the possible T Coronae Borealis this summer. Thank you for taking your time to learn a little bit more about me and considering me for this incredible telescope.

Best,

Whitaker Carmichael

KD9TBF



MAS Board Member, Mike Wagner, attached Whittaker's Hadley telescope to B-scope, as part of verifying optical clarity, taking advantage of a strawberry moon in June, 2023.

Essay Contest: Jay Suthan

My name is Jay Suthan. I'm relatively new to astronomy, considering I've only just gotten more involved (it's been a little over a year since I joined the MAS). Even this is surprising, as right before astronomy I was interested in philosophy! My venture into philosophy led me to question things like how the universe began - and that in turn led me to books like *The Elephant in the Universe* by Govert Schilling, and *A Brief History of Time* by Stephen Hawking. Those two books - and a little dabbling of mine in *Einstein's Relativity: The Special and General Theory* - led me to joining my high school's astronomy club, where William Gottemoller, president of the club at the time, suggested I join the MAS. After I joined, William gave me a tour of the grounds on a snowy night, and I gazed at Mars and the stars through the Dobsonian in D Shed. Eventually I even got into deep-sky imaging with G-Scope, where I began imaging M63 and even finished imaging the Iris Nebula, which I recently submitted to the Astronomical League's Horkheimer Parker Youth Imager Awards. While G-Scope was the largest focus of mine for a while, I have as of late begun to learn how to use A-Scope and B-Scope as well. I've also enjoyed using the Dobsonian in D-Shed, ever since my first night on the grounds. I don't currently possess a telescope of my own to use on nights I am away from the observatory, and this Dobsonian looks like a great opportunity to begin to do just that. I'd like to observe as much as I can in the night sky - clusters of stars, planetary nebulas, planets, the Moon - the sky is not even the limit.



Although this telescope is not a part of the contest, Jay, pictured here, will be working with MAS member Matthew Ryno on the gear and reporting on readiness to Observatory Director Lee Keith, on a recommendation to place the rig in the loaner pool.



Jay Suthan's submission to the Astronomical League's youth imaging award contest, of the Iris Nebula, taken with G-Scope at the MAS. Jay is currently training to become a keyholder.

M81 and M82 Widefield

Veteran imager and MAS member Girish Muralidharan took multiple dark sky trips to Harrington Beach State Park (HBSP) to get the Luminance data on this image over two months, and has recently processed the photo from his data library. During one of the sessions he was at HBSP, he forgot to take his Right-Angle Polar Alignment Scope with Illuminator for his Mach 2 along.. and didn't have sharpcap installed either with no internet. Instead of giving up, he ended up attempting the session after visually lining up scope to the pole and doing a 20 point Astro-Physics Point Mapper model. To his surprise, he ended up with perfect subs.. this was at 630mm FL. His Mach2 saved him a night!

Equipment:

Imaging Telescope: Takahashi TSA-120

Imaging Camera: ZWO ASI2600MM Pro

Mount: Astro-Physics Mach2 GTO

Filters: Astrodon Gen1 E-Series Tru-Balance Blue, Astrodon Gen1 E-Series Tru-Balance Green, Astrodon Gen1 E-Series Tru-Balance Red, Astrodon Gen2 I-Series Tru-Balance Lum 36mm, Astrodon H-alpha 3nm 36 mm

Acquisition details: Nov. 22 - 23, 2022, Nov. 25, 2022, Nov. 27, 2022

Frames: 135×120"(4h 30')

Astrodon Gen2 I-Series Tru-Balance Lum 36mm: 108×300"(9h)

Astrodon H-alpha 3nm 36 mm: 72×600"(12h)

Integration:24h 27'

Astrobin Full

Resolution:

[https://
astrob.in/
ac411q/0/](https://astrob.in/ac411q/0/)



Virtual Imagers Group Meetings Each Month!

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

If you're interested in astrophotography please save the dates to hop on to these open forum sessions via the link **at 7pm on the Second Wednesday of every month** to work through any processing and screen share processing techniques in a friendly environment with other imagers! Who knows, you might even get advice from someone like Girish! Beautiful photo!

A Planetarium Aurora

Thank you to Lisa Swaney, director of the Horwitz-DeRemer Planetarium in Waukesha, WI, for hosting our April 15 membership meeting off site at the planetarium. Once a year we try to host our meetings off site. After a board meeting, MAS members enjoyed a sneak peak of a new Aurora show at the planetarium, and a tough pop quiz during star talk by Alex, the show's host and planetarium staff member.

Little did we know in May we would be in for one of the largest, potentially once in 500-year Aurora events in person! New show description below:

Aurora: Lights of Wonder

Experience the aurora borealis as if you were there! Thanks to the pioneering work of astrophotographer Kwon O Chul. "Aurora: Lights of Wonder," filmed on location in Yellowknife, Northwest Territories, Canada, features high resolution, hemispherical video recorded in real-time with a special camera system that captures the subtle detail, colors, dynamism and beauty of the aurora. In addition, scientific explanations and beautiful artwork about the legend of the aurora are featured throughout the show.



Learn more about upcoming shows at the planetarium: <https://sdw.waukesha.k12.wi.us/o/planetarium/events> or go to <https://hdplanetarium.ticketleap.com/> to purchase a ticket!

All MAS members may attend one free show at the planetarium per year, as part of our partnership with the Horwitz-DeRemer Planetarium. Have you visited yet? When attending, note you are a MAS member when you walk up to the ticket booth in the Retzer Nature Center. Donations are always appreciated!

KP8-KP9 Aurora Borealis May 10-11th

Word was posted in our Google Group Friday May 10, at 7pm, the night we were seeing heavy aurora activity, and a storm came through at 10pm in our area! But, imagers were persistent, and by 1am some travelled to wait it out for the very best aurora shot they could in a rare KP9 strength aurora! Others came back after a rain out only to discover this aurora was so rare that it could be seen in Milwaukee proper and even farther south! What an amazing night, where we traded sleep to see pulsations and colors in the southern sky and at zenith! See more pictures in our Google Group!

Chad Andrist:

Aurora from over a farm field in West Bend, WI. [Link to view more.](#)

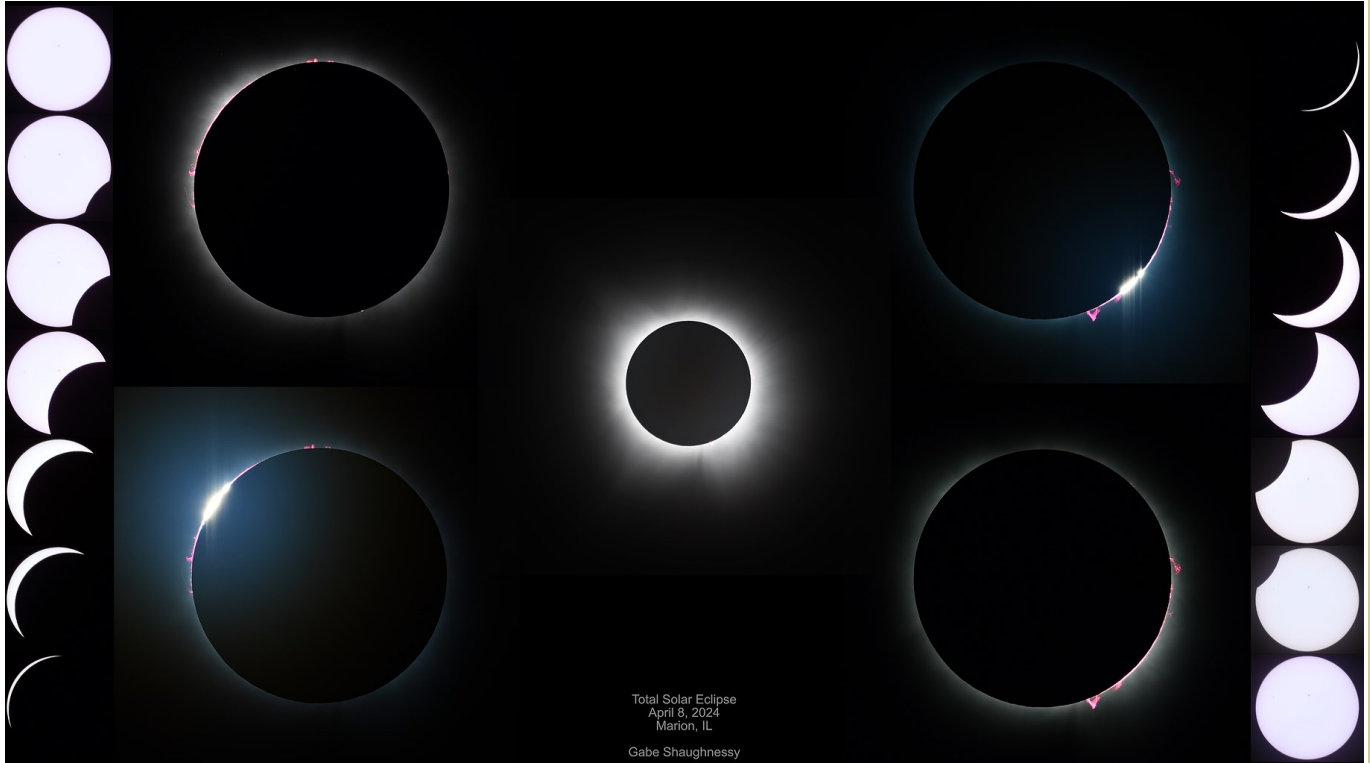
“Here is just a small taste of what I captured that amazing night. This aurora was absolutely spellbinding from the moment it got dark, all the way till sunrise. No matter where I looked or pointed my camera, there was something wonderful happening, in every color you could imagine! This was truly a once in a lifetime experience!”



Glenn Sarlitto: “Caught this on my way home from Dodge County around 3:30AM just about the start of astronomical twilight. Took this at the corner of Donegal Rd and HWY 83. Cassiopeia is top center outlined with a yellow W (2nd Pic). Canon 5DM3 with a Canon 24-150MM L Lens at widest angle (24mm). ISO 200 f/4.0 20sec exposure. Anyone else see the purple colored Electric Strike Symbol striking the church in this photo? On a sidenote I drove a total of 165 miles from 9PM through a Lake Michigan Sunrise at 5:30am”

2024 Total Solar Eclipse!

Whether you traveled to see totality, like those who shared their [travel experiences in this article interviewing MAS members from the *Journal Sentinel*](#), or stayed by the MAS for an eclipse party hosted by president, Jill Roberts, this was a very special event! There are way too many photos to share all of them, most shared in our Google Group, so enjoy the following:



Picture above, Gabe Shaughnessy travelled to see the eclipse totality from Marion, IL.

“I decided to pack a lot lighter than what I did in 2017. Instead of lugging an AP Mach 1 with counterweights, pier, etc., I brought my lightweight RST135 mount and carbon fiber tripod. I used the same scope as in 2017 - a TMB92SS. For the camera, I used a Nikon D850 and Eclipse Orchestrator for taking the images while we enjoyed the eclipse. As MAS member Arun Hegde said, this is very important to let the automation do its thing while you enjoy the experience of the eclipse.

The skies looked pretty good to start the day, but gradually more cirrus came as the eclipse got started. You can sure see it in the timelapse I took using my iPad laying on the ground. I don't really recall there being that much in the way of cirrus clouds during the eclipse - I was so focused on it. In the timelapse below you can see during totality a hint of the corona.

I think due to the high cirrus clouds, the corona wasn't as well defined in the HDR image, and I couldn't really get much in the way of earthshine. Also, due to operator error, I ended up saving all my frames from my camera in jpeg mode, and not raw mode - doh! That likely contributed to the amount of detail I could pull out of the HDR stack. Overall though, I'm happy with how all images turned out despite the misstep. It was great experiencing my 2nd total eclipse with family. I'm now thinking about the one in Spain in 2026 - that would be a fun trip.

Timelapse: <https://www.youtube.com/watch?v=nh3MhTEjPkQ>

Collage: <https://www.astrobin.com/8esjxx/>

Baily's Beads during 3rd Contact: <https://www.astrobin.com/b8jj3c/>

2024 Total Solar Eclipse!

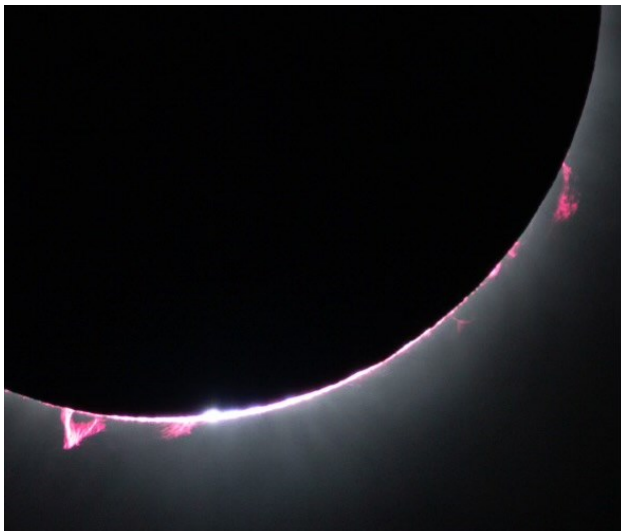
After hearing about the eclipse and its path last year, we made plans to visit with relatives (inlaws) in Jonesboro, AR. They also have a small cottage in Cherokee Village, AR which was dead center in the path of totality. So we had two options depending on weather conditions, one with 2 1/2 minutes totality (Jonesboro) and one with the full 4 1/2 minutes. As it turned out, both sites had rain the day before and the day after, but were clear the day of. This was fortunate as a minor illness in the family caused us to remain in Jonesboro.

We were able to set up lawn chairs and relax in the front yard for the whole experience. My adult niece who also lives in Jonesboro convinced her 16 year old son to come over to the house to watch it with us. Although he really just wanted to stay home and play video games (they were given the day off from school), he reluctantly came over. As totality approached, he was obviously not very impressed.

Then ***BAM*** the sky darkened and I shouted "OK, take off your solar glasses". Just seeing his expression at that moment was worth the entire trip. This was my first total eclipse, so I did not bring any special scopes or photo gear with me. All of us just soaked up the moments as the street lights popped on in the neighborhood.

I did take "during" and "after" pictures of the crescent patterns with a cell phone on their wooden fence that nicely illustrates the pinhole camera effect.

-Chris Davis



Member Glenn Kozicki took the photo on the left from a location 30 miles west of Indianapolis in Danville. Like many member photos, this captured the view of the solar prominence seen during totality, which many saw as red while eclipsed. A prominence is a large plasma and magnetic field structure extending outward from the Sun's surface.

2024 Total Solar Eclipse!

Like many, I've been travelling and seeing some of the brief reports come in from other MAS members about their eclipse success. I'm home after three days and wanted to share a brief report.

My strategy to see the total eclipse was flexibility, and I had multiple contingency plans in place. Without going into a long explanation of the details, on Saturday I confirmed that I was going to be using my pre-arranged accommodations in Memphis. In Memphis on Sunday night, I decided that I was heading west into Arkansas, which had the best forecast. I made a compromise and opted to stop short of the centerline for access reasons (which was wise).

EARLY Sunday morning I drove west into Arkansas to a large sports complex with multiple baseball and soccer fields with lots of parking. The weather was good but not great with a lot of high cirrus clouds - but the forecast was very consistent saying that it would be clear for totality.

I set up my telescope, which was an instant magnet for many people. I estimate I had 50 people look through it in the run up to totality. My pinhole projector was also a hit. As totality approached, the high clouds moved on and it was mostly clear blue skies all around. I was so happy that all my planning worked out so that I could see my second total eclipse. I won't try to be a poet and describe totality - all that can be said is that you need to see it to understand.

As an amateur astronomer I will comment that the corona seemed larger and had more "spikes" than the last time I had seen it . . . and I was absolutely elated to see the prominence, which had a distinct red/pink appearance at the approximately 6 o'clock position. I could not believe my eyes and asked several others to confirm what I was seeing.

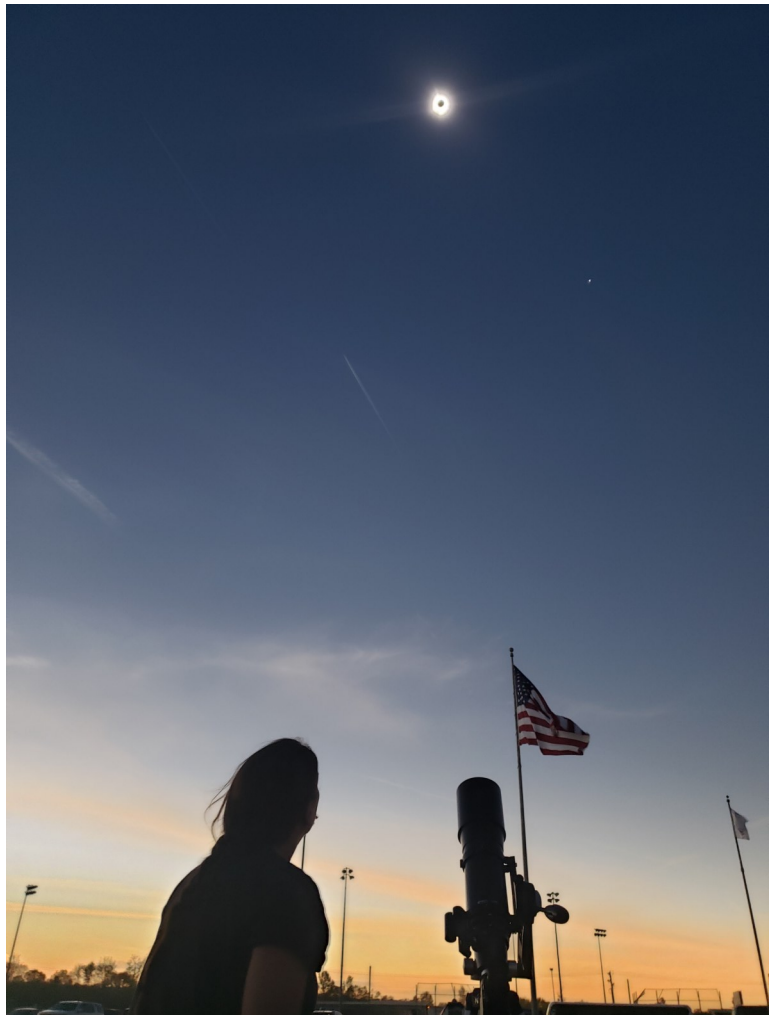
Jupiter and Venus were both clearly visible. As I expected, I could not make out the comet. I did try a few photos but made myself a promise to live in the moment and not worry about gear or a camera. It was my wife's birthday - the attached photo is her silhouette. You can make out Venus in the photo.

It took 4X as long to return to Memphis, and 11 hours to get home today - which were expected but still unpleasant. Something this amazing is worth the effort.

I will be very blessed indeed if I am able to see the next one in the United States with my wife.

I hope everyone enjoyed the experience as much as I did, and look forward to more reports and photos.

-Scott Lancelle



2024 Total Solar Eclipse!

Hi everyone, my name is John Pfannerstill. I am a long-time MAS member and a “lurker” on the group, so you probably haven’t heard much from me. But I thought I’d break my silence and weigh in on my eclipse experience.

I observed the event from Southern Illinois Airport at Carbondale, IL. A friend of mine owns an airplane and he very generously offered to fly me and another mutual friend into the path of totality. We flew out of Crites Field in Waukesha. We had identified six candidate airports near the centerline as possible observation sites. These ranged from Carbondale on the west up to near Cleveland in the east. We made a final decision to fly to Carbondale on Monday morning based on satellite imagery and wind speeds aloft.

We left Waukesha at 8:26 a.m., touching down at Carbondale at 11:39 a.m. The airport was very active. One entire runway was shut down so that they could use it to park planes. They were very organized and prepared. They had parking attendants, much as you would find at American Family Field, directing the taxiing airplanes where to park. It was impressive.

Up near the terminal, it was like a party. There were vendors, hospitality tents and even a band. But we stayed away from all of that. We just pulled out our chairs, cooler and eclipse glasses and settled in to enjoy the show right next to the airplane.

This was my third total eclipse and as such, I wanted to simply relax and enjoy this one. So I left my telescope, cameras, telephoto lenses and tripods at home. All I had were my eclipse glasses, binoculars and an iPhone. I correctly reckoned that I would be able to download images that would be much better than anything I could obtain myself and I was happy I made that decision.

A fun part of the experience was that the two guys I went with had no idea what they were about to see. They were more interested in simply having an excuse to take a cross-country flight. They didn’t even really know what an eclipse was. “So it’s gonna get dark,” they said, “what happens next?” I did my best to explain it and prepare them, but they remained kind of skeptical. They didn’t actually say so, but I suspected that they were of the opinion that this was just a lot of hype about something that was really not that big a deal.

Needless to say, totality made true believers out of them! “Oh man!,” they said, “that was SO worth it!” They were really whooping it up. It was fun to see their reactions! Both of them are now counting the days to August 12, 2045, despite the fact that (if we live that long), all three of us will be in our 90s when that one happens!

The weather was great. There were some very light, high altitude wispy clouds but they didn’t significantly interfere with the view. Pink prominences were very easily visible through the binoculars and we could easily spot Venus and Jupiter. I looked for the comet, but wasn’t able to see it.

No matter how many eclipses you see, they always seem to suck the air out of your lungs and this one was no exception. I tried taking some photos with my iPhone but they were disappointing. Unfortunately I didn’t think ahead enough to figure out how to disable the automatic light control on it. As a result, my photos from just before totality when I tried to capture the eerie-ness of the coming darkness, just look like pictures one might take on a normal day. Same thing for totality. The eclipsed sun was badly overexposed and the sky background was a light blue rather than the deep, deep blue that it looked like visually. But all of that was irrelevant. Photography was not the objective on this trip.

Pumped up and exhilarated, we got back aboard the plane before fourth contact, leaving Carbondale at 2:53 pm. Riding a decent tailwind, we were back on the ground in Waukesha by 5:30 pm. Very simple. Very easy. No hotels, no traffic. If you can arrange it, flying is definitely the way to go! I was very fortunate.

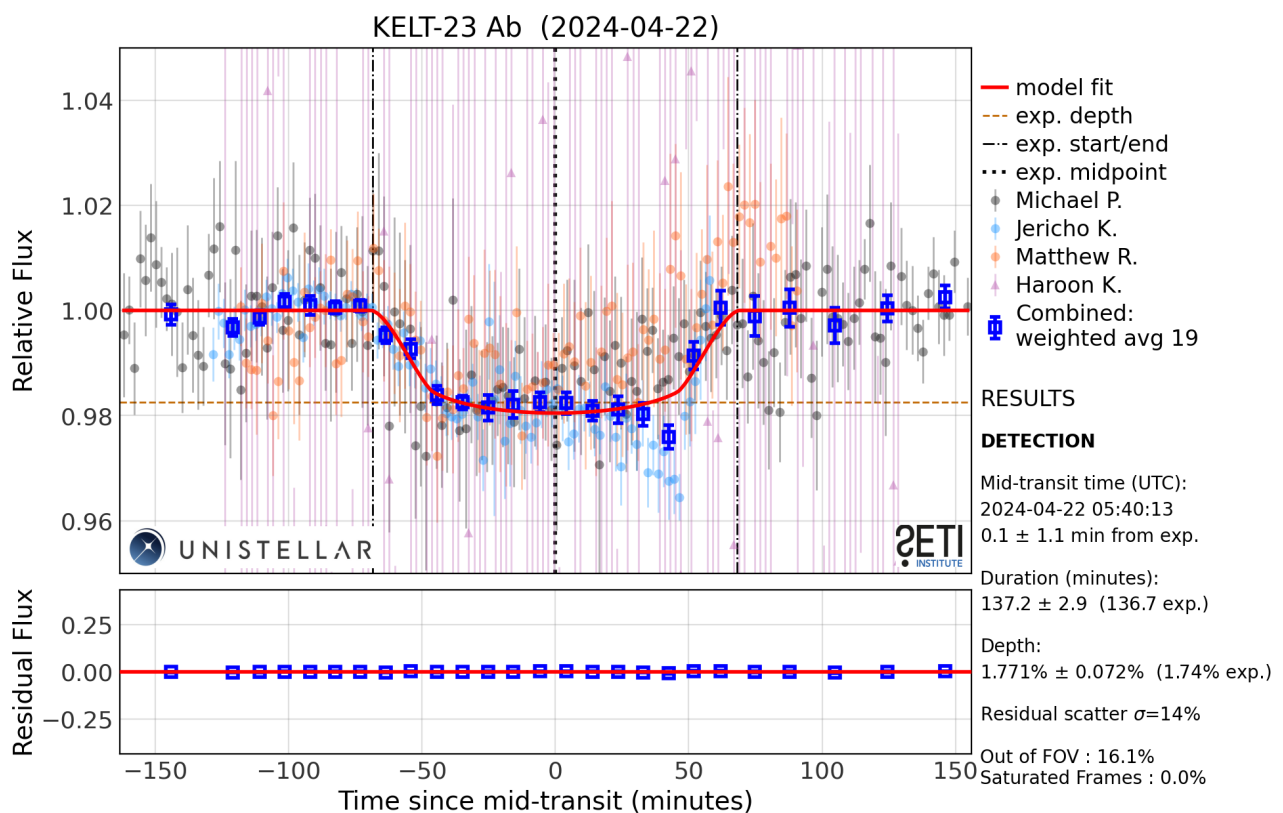
MAS Citizen Science: Combined Exoplanet Data

The passage of a planet between a star and Earth is called a "transit." If dimming is detected at regular intervals and lasts a fixed, repeated length of time, then it is very likely that another, dimmer object is orbiting the star. Once observed we can plot this on a graph, and we can use something as big as a 4.5inch mirror, to see objects like [Kelt-23 Ab](#), located 412 light-years from earth! This planet is a gas giant much like Jupiter, but with an orbital period of 2.3 days! It was first discovered in 2019, and repeated confirmations of transit models, help us confirm our calculations of orbit or planet mass and other characteristics are still correct while giant space telescopes spend time on other targets. Enter, amateur astronomers!

Recently MAS Members Jericho Kuehl and Matthew Ryno collaborated with Unistellar eVscopes, by sending in observation data taken in Southeastern Wisconsin, with other observers across the country to get a snapshot of a combined weighted average of all telescope data.

According to researchers from Unistellar, the company is working on automating via Python code, to create more combination graphs like this via an automation pipeline. The data below includes one observer whose dataset was off, allowing us to see how even an observation with poor data would combine in an automated fashion. These results graphs can then be uploaded to scientific databases, such as what is done in Unistellar's [UNITE NASA-partnered exoplanet initiative](#), using data from eVscopes, just like what we use at the Milwaukee Astronomical Society. In this example, Matthew's observation had drift after a long period of time and brought our overall post transit period data above the trend line for example, Michael was more ideally positioned and caught good data in all 3 stages (post, transit, pre). But taken as a group they all aligned roughly and this helps encourage construction of a graph when one observer cannot monitor for more than an hour, or if multiple observers start at different times, for a more robust graph.

We will be adding this graph to our wall in the Z-dome hallway on our results cork board! If you wish to learn how to use our MAS Unistellar eVscopes for science, just send a message to the Google Group!



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.

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!

Board Member — We have a few board member seats that are up for election. We could use your background, your decision making skills, and your interest in observatory business to help direct future business and initiatives at the Milwaukee Astronomical Society. We welcome board members with no astronomy experience, but a background in a variety of roles or business. Please attend our May 20th meeting to apply to be a board member!

Programming Committee — How would you like to be involved with finding amazing speakers who you'd like to come talk to the MAS, and enjoying the fruits of your labor by seeing a wonderful talk enjoyed by all? This is your chance—no astronomy experience needed at all, just a drive to ask questions, persistence to nail down dates, and planning chops to coordinate with other volunteers and fill up membership meeting slots throughout the year. Contact an officer to help!

Open House Committee or Volunteer Help — Do you like event planning? Do you have a knack for helping coordinate people to get tasks done? Join our Open House committee to help plan upcoming events this summer, or just stop by one of our upcoming open houses to help interact with the public and setup/takedown. No astronomy experience required!

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.

ALCON 2024 is Coming Up, July 17-20

It's the [Astronomical Society of Kansas City's](https://www.astronomicalsocietyofkansascity.org/) 100th anniversary, and we are honored to be the official host for this year's Astronomical League Convention—ALCon 2024—this July, right in the Kansas City area! Go to alcon2024.astroleague.org to register now.

We would like to invite you to join us at ALCon 2024, Stars and All That Jazz! In addition to the daily convention activities, we will be hosting evening events at Gottlieb Planetarium, Linda Hall Library, Overland Park Arboretum and our very own Powell Observatory, home to our 30-inch Ruisinger telescope.

- **Gottlieb Planetarium** at Union Station in downtown Kansas City, Mo., will provide us a private presentation in their facility.
- **Linda Hall Library**, a world-famous science and technology research library, will feature guest speaker **David Levy** and a chance to visit the library's rare book room, featuring such books as two of the few extant copies of Galileo's *Siderius Nuncius* (1610).
- **Powell Observatory** for a presentation by ASKC member and astronomy student Rachel Cionitti and an evening of stargazing with the **30-inch Ruisinger Telescope** (weather permitting). The observatory visit will be preceded by a stop at the beautiful Overland Park Arboretum for a StarBQ dinner featuring local Kansas City-style BBQ.
- **Banquet** featuring a local jazz band, and Brown University professor of physics and astronomy, and jazz musician, **Stephon Alexander** will discuss his latest book, *The Jazz of Physics*.

ALCON 2024

GOING TO KANSAS CITY FOR STARS AND ALL THAT JAZZ!

SPEAKERS INCLUDE

- ★ Stephon Alexander, theoretical physicist, cosmologist, jazz saxophonist and author of *The Jazz of Physics*, a book that discusses the link between music and the structure of the universe
- ★ David Levy, comet hunter, amateur astronomer and science writer
- ★ Keivan Stassun, Professor of Physics and Astronomy, Vanderbilt University
- ★ Tim Russ, actor, musician screenwriter, director and amateur astronomer



EVENING EVENTS

- ★ Gottlieb Planetarium
- ★ Linda Hall Library, Rare Books Room
- ★ StarBQ at Overland Park Arboretum
- ★ Powell Observatory
- ★ Awards Banquet

VENDORS INCLUDE

- ★ DayStar Filters
- ★ Explore Scientific

JULY 17–20, 2024
DOUBLETREE BY HILTON, OVERLAND PARK, KANSAS

Hosted by



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MAS Observatory

18850 Observatory Rd
New Berlin, WI 53146

www.milwaukeeastro.org

[www.facebook.com/
milwaukeeastro](http://www.facebook.com/milwaukeeastro)

Upcoming Keyholder Assignments

Date	Name	Phone	Sunset
5/25	William Gottemoller	262-442-3686	8:14pm
5/31	Matthew Ryno (open house)	414-248-1455	8:23pm
6/1	Glenn Sarlitto	414-962-5454	8:24pm
	Mark Banyon	262-565-7948	
6/5	Lee Keith (1st Wednesday)	262-875-9103	8:27pm
6/8	John Koors	262-880-6393	8:29pm
	Jay Suthan	262-865-2673	
6/15	Matthew Ryno (open house)	414-248-1455	Daytime Event
	William Gottemoller	262-442-3686	8:32pm

At Your Service

Officers / Staff

President	Jill Roberts	262-765-7092	
Vice President	Lee Keith	262-875-9103	
Treasurer	Sue Timlin	414-460-4886	>>help wanted<<
Secretary	Matthew Ryno	414-248-1455	>>help wanted<<
Observatory Director	Lee Keith	262-875-9103	
Asst. Observatory Director	Russ Blankenburg	262-938-0752	
Newsletter Editor	Matthew Ryno	414-248-1455	>>help wanted<<
Co-Newsletter Editor			>>help wanted<<
Webmaster	Gene Hanson	262-269-9576	
Membership Chair	Matthew Ryno		
Open House Chair	Matthew Ryno		
Media /Outreach	Matthew Ryno		
Social Media	Matthew Ryno, Glenn Sarlitto,		>>help wanted<<
Imagers Group	Matthew Ryno		>>help wanted<<
Programming Chair			>>help wanted<<
Observatory Chair			>>help wanted<<
Groundskeeper	Brian Ganiere		

Help wanted, please contact your MAS President at jkrobertsmas@yahoo.com

Board of Directors

Jim Bakic	414-303-7765	Dhruva Kalyani	262-327-3792
Matthew Ryno	414-248-1455	Lee Keith	262-875-9103
Jill Roberts	262-765-7092	Jim Schroeter	414-333-3679
Sue Timlin	414-460-4886	Mike Bauer	262-894-1253
John Koors	262-880-6393	Mike Wagner	262-547-3321
		William Gottemoller	262-442-3686