



# The W.A.S.P.



Volume 56 Issue 04

April 2024

The Warren Astronomical Society Publication

## Here Comes the Eclipse!



STARGATE OBSERVATORY

Gone  
Eclipsing

## April 8, 2024

# The WASP

Published by  
Warren Astronomical Society, Inc.  
P.O. Box 1505  
Warren, Michigan 48090-1505

Dale Thieme, Editor

## 2024 Officers

President	Bob Trembley	president@warrenastro.org
1st VP	Dale Partin	firstvp@warrenastro.org
2ndVP	Riyad Matti	secondvp@warrenastro.org
Secretary	Charles Strackbein	secretary@warrenastro.org
Treasurer	Dave Baranski	treasurer@warrenastro.org
Outreach	Jeff MacLeod	outreach@warrenastro.org
Publications	Vatshalya Dandibhotla	publications@warrenastro.org
	Entire Board	board@warrenastro.org



The Warren Astronomical Society, Inc., is a local, non-profit organization of amateur astronomers. The Society holds meetings on the first Monday and third Thursday of each month, starting at 7:00 p.m.

First Monday meeting:	Third Thursday meeting:
Cranbrook: Institute of Science	Macomb Community College
1221 North Woodward Ave	South campus, Bldg. E, Room 208
Bloomfield Hills, Michigan	14600 Twelve Mile Rd.
	Warren, Michigan

## Membership and Annual Dues

Student	Individual	Senior Citizen	for families
\$17.00	\$30.00	\$22.00	add \$7.00

Astronomical League (optional) \$7.50

Send membership applications and dues to the treasurer:

**c/o Warren Astronomical Society, Inc.**

**P.O. Box 1505**

**Warren, Michigan 48090-1505**

Pay at the meetings

Also via PayPal (send funds to treasurer@warrenastro.org)

- Among the many benefits of membership are
- Loaner telescopes (with deposit). See 2nd VP.
- Free copy of each WASP newsletter.
- Free use of Stargate Observatory.
- Special interest subgroups. See chairpersons.

The Warren Astronomical Society Publication (WASP) is the official monthly publication of the Society.

Articles for inclusion in the WASP are strongly encouraged and should be submitted to the editor on or before the end of each month. Any format of submission is accepted. Materials can either be transmitted in person, via US Mail, or by email (publications@warrenastro.org)

Disclaimer: The articles presented herein represent the opinion of their authors and are not necessarily the opinion of the Warren Astronomical Society or this editor. The WASP reserves the right to edit or deny publication of any submission.

Stargate Observatory is owned and operated by the Society. Located on the grounds of Camp Rotary on 29 Mile Road, 1.8 miles east of Romeo Plank Road, Stargate features an 8-inch refractor telescope under a steel dome. The observatory is open according to the open house schedule published by the 2nd VP.

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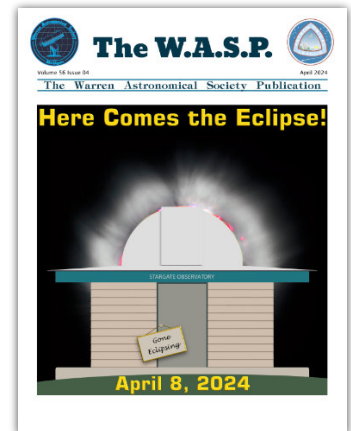
## About the Cover

This cover commemorates the approaching Great American Eclipse, part II (the first was in 2017.)

Quite a few of the WAS members are heading off to various locations along the totality range, from Texas to Ohio.

This is the last opportunity for a U.S. total eclipse for long time. Fingers crossed.

Be sure to check out the NASA Night Sky Notes in this issue if you are thinking about doing some citizen science for this eclipse.





# Field of View

## A Visit with Br. Guy

Br. Guy Consolmagno gave two lectures to audiences at Cranbrook Institute of Science on March 17th; the evening lecture, which was open to the public, was standing-room only in Cranbrook's auditorium. Connie and I had almost front-row seats; there were several W.A.S. members in the audience.

In fitting with Cranbrook's current exhibit, Br. Guy talked about Galileo. As you would expect, the "issue with the Church" was a major topic - Br. Guy discussed several inaccuracies that commonly make their way into publications about Galileo. What was interesting is the way Br. Guy humanized Galileo; Galileo had a long-time relationship and children, he corresponded with scientific peers, and he was a teacher. I know from experience with Connie how a good teacher can affect their students.

After his talk, Br. Guy was in a one-man reception line, where he signed books, and chatted with attendees. When all was done, we took him out for a resplendent dinner at Kerby's Koney Island (Woodward and Square Lake) - he was *thrilled* that they served Vernors ginger ale! As is typical during a visit with Br. Guy, we got to hear about some of the behind-the-scenes goings-on in professional astronomy - also typically sprinkled with heavy bouts of laughter!



In other news, Connie just posted an article on the Vatican Observatory website: [What's in a Name? Musings from a Middle School Science Teacher](#). I'm sure she'll be including the research she did for her post in her presentation to the W.A.S. this summer. Connie has another article for the VO that will be published soon.

## And now for something completely different

I play a LOT of computer games - a favorite type for me is open-world / survival / craft. These games typically have a day / night cycle; most of these games take place on Earth - but you sure couldn't tell from the nighttime sky! Many just show a random splash of stars, with no recognizable constellations; some games have star concentrations so dense, you'd believe you were on a planet within a globular cluster!

One game I play a lot is [No Man's Sky](#) - it's a multi-player space-based open-world / survival / craft game with more worlds in it than you could visit in the lifespan of the universe! (Yea, computer games are getting crazy big!) This game has frequent [content updates](#), and it had a [BIG one](#) in the last couple days. This game is absolutely NOT scientifically accurate, but it sure is pretty! And it looks great on my curved ultra-wide monitor!



## WAS Name Tags

Name tags are back. If you wish to have one and are a dues paying member, contact [publications@warrenastro.org](mailto:publications@warrenastro.org) and we'll get one printed up for you.



# Letters

## A request

At Cranbrook in Feb. a man gave me an astronomy book by the infamous William J. Corless. My mind was on three different things, so I thanked him and got to my own business.

The book is valuable intrinsically, and (nearly) was inspiration for a big observing project, leading to a lecture next year at the Public Museum. I would appreciate an announcement at Cranbrook and an insertion in the once award-winning W.A.S.P. asking who in the devil he is/ was. I must give him credit!

**GM Ross**

*(The book in question is The Moon and the Planets- Ed.)*

# WAS Merchandise

## Available at Cranbrook and Macomb meetings

WAS Pins

\$2.50 Each



WAS Bandana

\$5.00 Each



Astronomical Bandanas at an astronomically low price, just \$5! featuring 33 Glow in the dark constellations and a WAS logo.



# ALCON 2024

## STARS AND ALL THAT JAZZ!

JULY 17-20, 2024




To register for ALCon, first click on the link, then choose "buy tickets."  
<https://www.tickettailor.com/events/astronomicalsocietyofkansascity/1187693#>

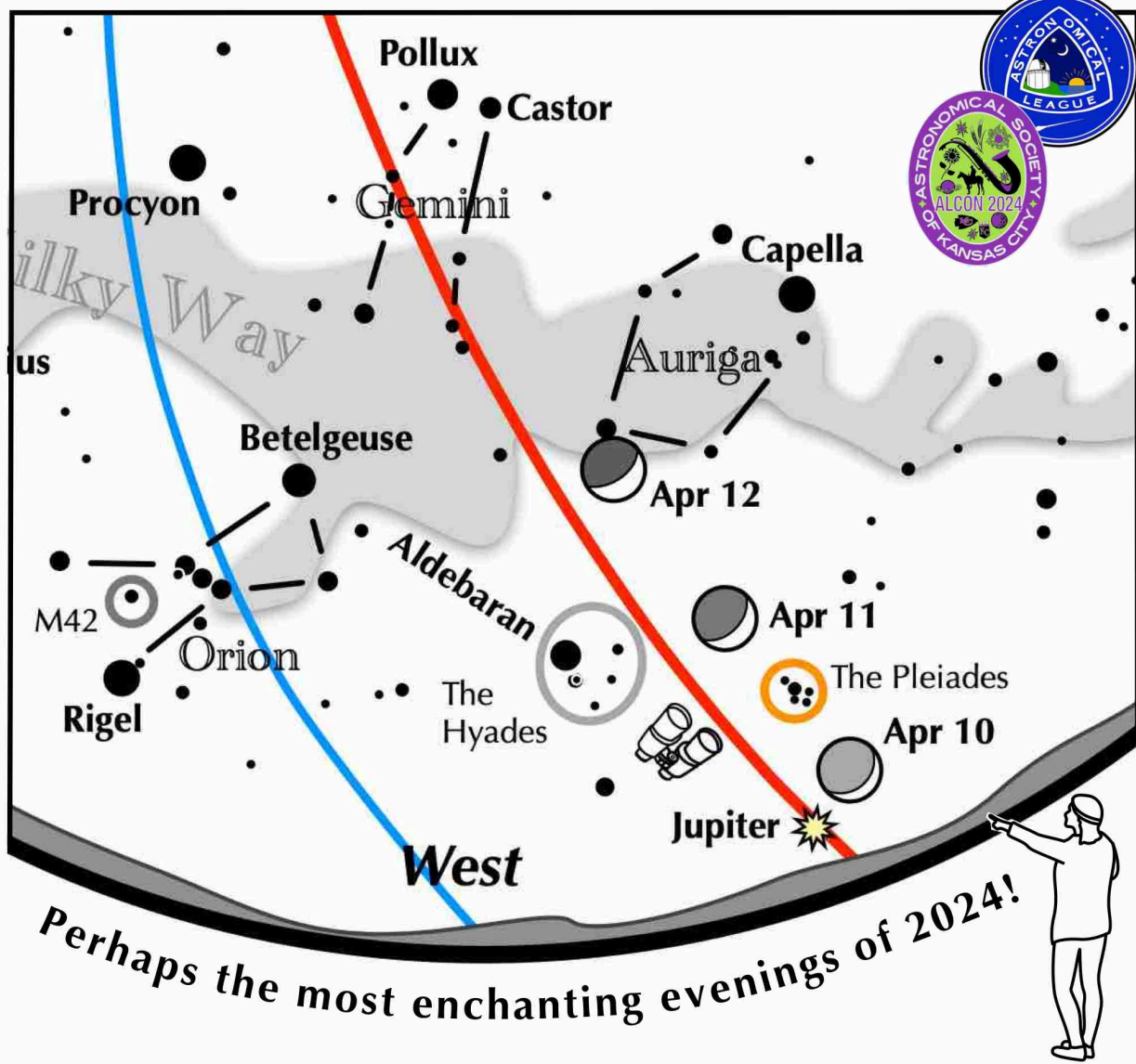
It's ASKC's 100th anniversary! We are honored to be the official host for this year's Astronomical League Convention – ALCon 2024 – this July.

*Held at the beautiful Overland Park DoubleTree Hotel*

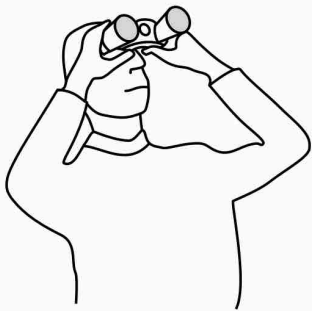
### See you at ALCon!

## Astronomical Society of Kansas City

# If you can see only one celestial event this April, see this one.



Perhaps the most enchanting evenings of 2024!



**Enhance the scene –  
use binoculars!**

[www.astroleague.org](http://www.astroleague.org)

On April 10, 11, and 12, look low in the west-northwest 60 minutes after sunset.

- The crescent moon, glowing full with earthshine, floats just above the horizon in the bright twilight on April 10. Next to it shines Jupiter, and above it lies the pretty Pleiades star cluster.
- On April 11, the slightly thicker, but more pronounced crescent moon moves between the Pleiades and the Hyades star clusters.
- On the third night, the crescent moon stands commandingly above the scene.

# WAS Apparel Price List

## T-SHIRTS

Black - Navy - Gray (Pink or Yellow if desired) - one imprint

Small - XL .....	\$15.00
2XL .....	\$18.00
3XL .....	\$19.00

## LONG SLEEVE T-SHIRTS

Black - Navy - Gray - one imprint

Small - XL .....	\$19.00
2XL .....	\$21.00
3XL .....	\$22.00

## CREW NECK SWEATSHIRT

Black - Navy - Gray - one imprint

Small - XL .....	\$22.00
2XL .....	\$24.00
3XL .....	\$25.00

## LOGO COLOR SCHEMES:

Black background with gold/yellow artwork and lettering

Black background with blue lettering and gold/yellow artwork

Choose when placing order

## ZIPPER HOODIE W/Pockets

Black Only (at this time) - one imprint

Small - XL .....	\$27.00
2XL .....	\$33.00
3XL .....	\$34.00

## HATS

Black - Blue 2 1/2" logo .....

\$15.00
---------

## IMPRINT LOCATIONS:

Front left chest (3 1/4" logo)

Front or back (9" or 10" logo)

Back (12" logo for jackets or sweater)

Combination front left chest (3 1/4" logo) and back (9", 10" or 12" logo) - add \$7.00

Choose when placing order

---

## IMPRINT ON YOUR CLOTHING ITEM: Logo + Imprint Charge

3 1/4" Logo - \$8.00

9" - 10" Logo - \$12.00

12" Logo - \$15.00

### HOW TO ORDER:

Place order at the Cranbrook meeting on the first Monday of month -

Select garment type - color of garment - logo imprint and color scheme -

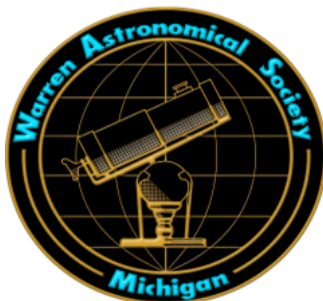
Pay in full for order to be placed -

Your order will be ready for pickup at next Cranbrook meeting -

(Your order may possibly be ready for the Macomb meeting following the Cranbrook meeting of that month - you will be notified if that is the case)

Contact Mark Kedzior @ [bazonga952@hotmail.com](mailto:bazonga952@hotmail.com) with any questions

### LOGO COLOR CHOICES



Gold/Blue



Gold-3D



# WAS Astrophotos



**Above:**

*Comet 12P/Pons-Brooks*  
03/13/2024

Traveled to Bortle 4 location and took 33 x 90 second images for total integration time of almost 50 minutes

**Below:**

*NGC 1499 - California Nebula*

Taken over four nights in February for a total integration time of 12.5 hours.

-Images by Dale Hollenbaugh



**Above:**

Here is the best photo of the night from the last Stargate open house (Feb 24, 2024.)

**Below:**

My best picture from the open house evening on March 23rd. The conditions were fantastic.

-Images by Brian Wezenky



# The View From C.W. Sirius Observatory

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## NGC 2936 – The Porpoise Galaxy

I was lucky enough to have another clear night up at the observatory in early March. This is NGC 2936, the Porpoise Galaxy. This is an interacting spiral galaxy located 326 million light-years away, in the constellation Hydra. NGC 2936 is interacting with elliptical galaxy NGC 2937, located just beneath it, causing it to basically pull down on NGC 2936.

They were both discovered by Albert Marth on Mar 3, 1864. To some astronomers, the galaxy looks like a porpoise or even a penguin, which attracted me to image it.

NGC 2936 once had a flat, spiral disk. The orbits of the galaxy's stars have been perturbed due to gravitational tidal interactions with NGC 2937. Gas from the center of NGC 2936 became compressed during the encounter with NGC 2937. The red dust (dust lane), that was inside the center of the galaxy has been mostly thrown out due to the collision. During the collision, gas coming from NGC 2936 triggered star formation.

Also, just above the Porpoise and at the 1:00 position, you can see PGC 1237172, a bluish irregular galaxy or edge-on spiral galaxy. It is located 230 million light years away, making it closer to the Earth than the NGC 2936 collision, and it happens to be located next to two unrelated stars from the Milky Way.

The Porpoise galaxy is a very tiny and faint object. I took this image using the 11" f/7 SCT, and the ZWO2600 one-shot color camera. It's 3 ½ hours of integration time using 10 minute exposures. To visually observe the Porpoise, you will need a larger telescope with a long focal length to see



Image: Bill Beers

the faint fuzzy galaxy. The clubs 22" Dob should do nicely from the Stargate location, but could be challenging since the object is located in the south. If you can get up north to a darker site, that would help. Good luck fishing for the Porpoise!

**-Bill Beers**



### About CW Sirius Observatory

C.W. (Cadillac West) Sirius Observatory is located 15 west of Cadillac Michigan. Owned and operated by WAS member Bill Beers. The dome is an 8' Clear Skies Inc dome which houses an 11" f/10 SCT telescope, a 102mm f/7 refractor telescope, Celestron CGEM DX mount, and uses an ASI ZWO 071 color CMOS camera, as well as a QHY8L color CCD camera. The telescope can be remotely operated from inside Bill's house.

Anyone interested in learning about astrophotography, or any questions regarding equipment, or how to take astrophotos using your iPhones, or any related questions, can contact Bill at: BEEZOL@AOL.COM





# From the Desk of the Northern Cross Observatory



## Messier 51 (Whirlpool Galaxy)

It is galaxy season this Spring. This month (March 11, 2024) I decided to collect fresh data on Messier 51, with the ZWO asi2600mc pro camera. This will be the first time I've used that camera on this object. This was only about 1 hour and 40 minutes worth in the morning hours, after my run all night on another object that needs more data.

Description from Wikipedia:

The Whirlpool Galaxy, also known as Messier 51a or NGC 5194, is an interacting grand-design spiral galaxy with a Seyfert 2 active galactic nucleus. It lies in the constellation Canes Venatici, and was the first galaxy to be classified as a spiral galaxy. It is 7.22 megaparsecs away and 23.58 kiloparsecs in diameter.



Data Acquisition: 20 x 300 second light frames. ZWO asi2600mc pro camera, temp 0C, gain 100. 10" f/8 RC telescope. Losmandy G11 mount. Stacked in Deep Sky Stacker, processed in PixInsight.

-Doug Bock

# Presentations

## Cranbrook

7:00 pm, April 1, 2024

Short Talk

### Astronomy Entertainment

For the Cranbrook meeting, Dale Partin will give a short presentation called "Astronomy Entertainment". He will give an astronomy quiz to the audience then show a short video about people being interviewed on the street about their knowledge of astronomy. Pretty humorous!

### Social Time

Following the presentation, we will have a social time in the dining area outside the auditorium instead of a long presentation. Those who come are encouraged to bring a favorite snack (chips, pretzels, cookies, brownies, fruit, fruit juice, pop, etc). If some people don't bring a snack, that's okay, just come and enjoy. It will be a fine time to get to know your fellow club members.

### Note:

**In-person only. This meeting will not be on Zoom or streamed on YouTube .**

## Macomb

7:00 pm, April 18, 2024

Feature

### Viewing the Universe from the South Pole

By Jerry Dunifer

Over eight years ago, Jerry took part in an expedition to the geographic South Pole of the Earth. He will describe some of the telescopes located there. Two of the major telescopes are the South Pole Telescope (operating at millimeter-wave frequencies) and Ice Cube (a neutrino telescope). Jerry will cover two of the major developments that have occurred since then. This includes incorporating the South Pole Telescope as one component of the Event Horizon Telescope, which is a linkage of 11 individual telescopes spread around the surface of the Earth, and the neutrino observations that have been made from Ice Cube over the last 8-year period. He will conclude with describing two projects that will significantly enhance the sensitivity and capability of Ice Cube over the next 8 years.

### About the Speaker

Jerry Dunifer is a Professor Emeritus at Wayne State University. He was a member of the faculty in the Department of Physics & Astronomy for 35 years before retirement. While active in the Department he served as a Professor and Associate Chair of the Department for several years. His research program there involved the study of the electrical and magnetic properties of high-purity metals at a temperature of 1 Kelvin. He also played an active role in the astronomy programs of the Department, including the WSU Planetarium and telescopic observing facilities.

Since retirement, one of Jerry's hobbies has been visiting a number of the major and historic astronomy observatories around the World. He has visited dozens of different sites and has traveled as far as the geographic South Pole and the geographic North Pole. And many places in-between.

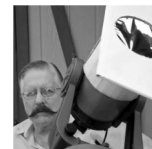
## WAS PRESENTATIONS

If you would like to present either a short talk (10-15 minutes) or a full-length talk (45-60 minutes) at a future meeting, please email Dale Partin at: [firstvp@warrenastro.org](mailto:firstvp@warrenastro.org).





# Over the Moon



With Rik Hill

## The Posidonius Adventure

On the northeastern shore of Mare Serenitatis is found the spectacular crater Posidonius (99 km). This is what's called a fractured floor crater (FFC) meaning that it was flooded, the lava receded and the floor cracked resulting in the fissures we call Rimae Posidonius. Posidonius is thought to contain the remnants of an older crater wall seen on the east (right) side. There are two long, parallel north-south rimae immediately apparent on the floor of Posidonius. They are not at all the alike. The one in the middle of the crater is a graben-like rima that ends on the north end where it meets the interior crater wall. The rima to the west is not a linear crack but in orbiter images is seen as tightly sinuous formed by a fluid, probably lava, during some post-impact modification and flooding from Serenitatis as it takes a right angled turn to the west wall. On the other end it runs up to the northern wall and follows along the inside of that wall all the way to the crater Posidonius (14 km) B on the northeast wall. You'll need a large aperture to follow along its full extent.

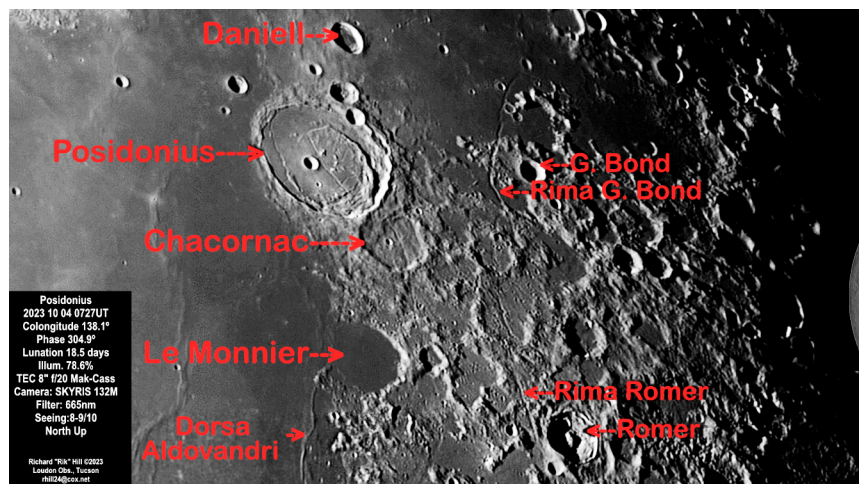


South of Posidonius is the ruined crater Chacornac (53 km), as much as a billion years older than Posidonius, from the beginnings of the Moons formation. It has been overlain by ejecta from numerous nearby maria and crater impacts. Notice how the central rima in Posidonius appears to continue south across Chacornac and beyond.

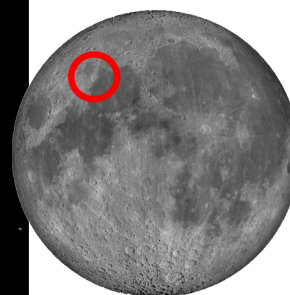
Further south from Chacornac is an embayment off the mare. This is Le Monnier (63 km). The south side of this

crater was the landing site for Luna (Lunik) 21. From this landing site the onboard rover, Lunokhod2, traveled 37 km across the surface to the flanks of the southeastern wall, the longest distanced traveled by any lunar roving vehicle ever. This rover had 7 cameras on board. I invite the readers to look up the pictures and exploits of this mission.

There's a nice wrinkle ridge winding its way south from the southern point Le Monnier. This is Dorsa Aldovandri that winds further south for 124 km well out of the limits of this image. To the southeast of Le Monnier is nice crater Romer (41 km) with terraced walls. The interior of this crater is worth the time on a good steady night with highest magnifications! To the left of this crater is a graben-like rima, Rima Romer. Another such rima is to the right of Posidonius just left of the smaller crater G.Bond (19 km). This rima is, as you might expect, Rima G.Bond.



This image was made from portions of two 1800 frame AVIs stacked with AviStack2, knitted together with MS Ice and finally processed with Gimp and IrfanView.



Location Maps by Ralph DeCew

# History S.I.G.



## April 1994

In this month's "Computer Chatter" by Larry Kalinowski, he discusses, among the computer news like the coming PowerPC chip, two astronomical events: a May annular eclipse and the approaching collision of comet Shoemaker-Levy with Jupiter. This slim issue continues with "Observing log from the Northern Cross Observatory" by Doug Bock, where he recounts the happenings of star parties he hosts at his own Northern Cross Observatory. "A Little Bit of Lore" is included, but appears to be copied from an original source, no authorship claimed or referenced.

## April 2004

Larry Kalinowski keeps celestial in this month's "Astro Chatter" with the only computer mention being a call for a replacement battery for the laptop the club treasurer uses.

Minutes of Meetings, Cranbrook Meetings on 02/16/04 and 03/18/04 were posted by Bob Watt. The WASP included a NASA Space Place article by Patrick L. Barry and Tony Phillips (which became the NASA Night Sky Notes in the current WASP.)

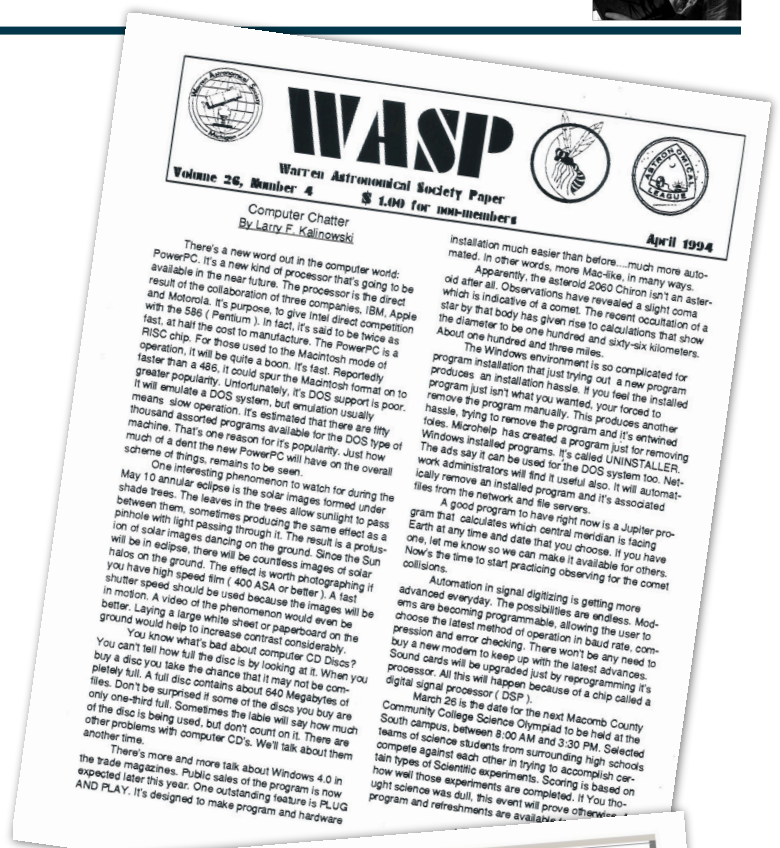
## From the Scanning Room

No scanning reports this month... I'll be off to Texas for the eclipse. Happily my sister-law-lives close to the centerline of the eclipse path where we'll be staying. No traffic issues this go around. Back in 2017, I-65 was a parking lot as we tried to get back to our home in Florida from Kentucky. But the spectacular site of the total eclipse was well worth it.

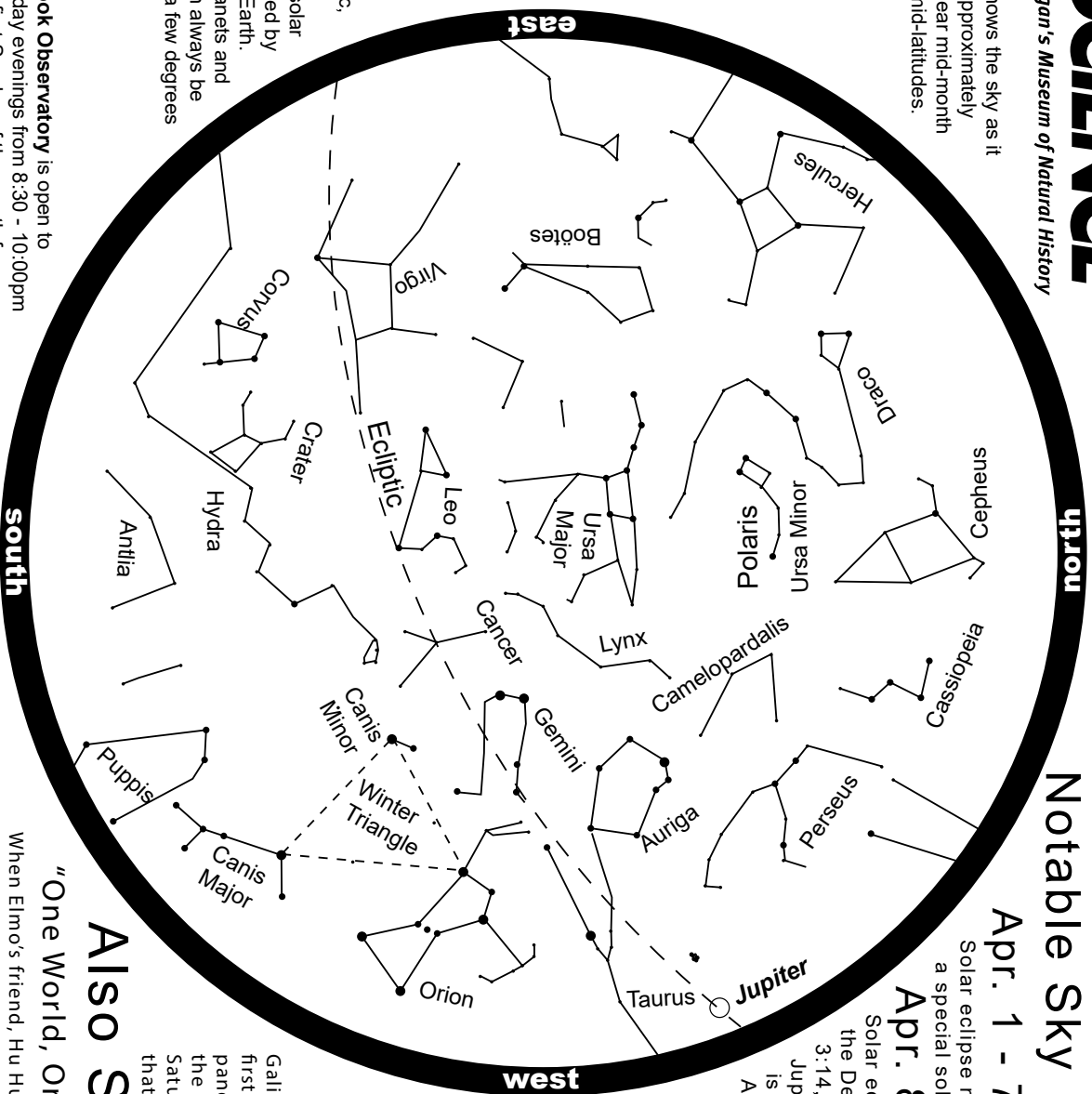
Dale Thieme,  
Chief Scanner



Eclipse fun in 2017



This chart shows the sky as it appears at approximately 10pm EDT near mid-month at northern mid-latitudes.



What is that dashed line? It's the ecliptic, the reference plane of the solar system, defined by the Sun and Earth. The major planets and the Moon can always be found within a few degrees of this plane.

The Cranbrook Observatory is open to the public Friday evenings from 8:30 - 10:00pm EDT, and the first Sunday of the month from 1:00 - 4:00pm for solar viewing.

For observatory information visit <http://science.cranbrook.edu/expllore/observatory>

# APRIL 2024

## Notable Sky Happenings

Apr. 1 - 7

Solar eclipse next week! Never look directly at the Sun! Use a special solar viewer or make a pin-hole projector.

Apr. 8 - 14

Solar eclipse on the 8th with 98% of the Sun covered in the Detroit area. Begins at 1:58pm EDT, maximum at 3:14, ends at 4:27. On the 10th the Moon is above Jupiter (WNV eve.); Moon is below Castor, Pollux is above and to the left on the 14th (WSW eve.). Also the 395th birthday of Christiaan Huygens!

Apr. 15 - 21

The Moon is to the left of Regulus on the 18th (S evening).

Apr. 22 - 30

Lyrid meteor shower peaks the evening of the 21st-22nd. Moon is to the right of Antares on the 26th (SSW predawn).

Apr. 2

Apr. 8

Apr. 15

Apr. 23



Last Quarter



New Moon



First Quarter



Full Moon

## Now Showing

### "Two Small Pieces of Glass"

Galileo did not invent the telescope, but he was the first to use it to examine the sky. Telescopes have expanded our knowledge of the cosmos. We'll learn about the history of telescopes, explore the Galilean Moons, Saturn's rings, the structure of galaxies and view images that were made through our observatory telescope.

## Also Showing

### "One World, One Sky: Big Bird's Adventure"

When Elmo's friend, Hu Hu Zhu, visits from China. Big Bird, Elmo and Hu Hu Zhu take viewers on an exciting discovery of the Sun, Moon, and stars. They learn about the Big Dipper and the North Star and take an imaginary trip to the Moon where they learn that the Moon is a very different place.

For astronomy information visit <http://science.cranbrook.edu>





Orion Over the Lake - Adrian Bradley

April 2024


Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Cranbrook	2	3	4	5 Lailat al-Qadr	6
7 Moon at Perigee: 358850 km	8 NEW MOON	9	10 Eid al-Fitr	11	12	13
14	15 Tax Day	16	17	18 Macomb	19 Moon at Apogee: 405625 km	20
21	22 Lyrid Meteor Shower	23 Passover FULL MOON	24	25	26	27 Stargate
28	29	30				

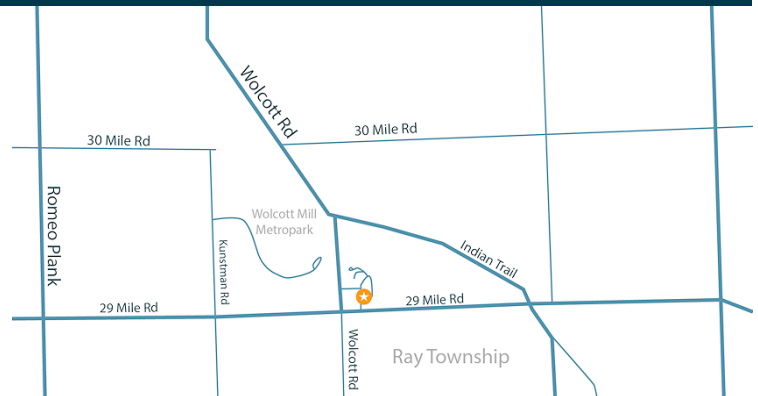


# Stargate Observatory

## Monthly Free Astronomy Open House and Star Party 8:00 PM, 4<sup>th</sup> Saturday of the Month Wolcott Mill Park - Camp Rotary Entrance

**Advisory:** Concerns are circulating in the amateur astronomy community about a possibility of COVID-19 being passed from one person to another via contact of different persons' eyes with a telescope eyepiece. Sharing telescopes may be considered by some to be high-risk due to the possibility of eyes touching eyepieces. Masks are encouraged, mandatory for children.

- Sky tours.
- See different telescope types in operation.
- Get help with your telescope.
- We can schedule special presentations and outings for scouts, student or community groups.
- Contact: outreach@warrenastro.org
- Find us on Meetup.com 



20505 29 Mile Rd (1.8 miles east of Romeo Plank Rd) Ray, MI 48096  
82° 55'04" West Longitude, 42° 45'29" North Latitude

## Observatory Rules:

- Closing time depends on weather, etc.
- May be closed one hour after opening time if no members arrive within the first hour.
- Contact the 2nd VP for other arrangements, such as late arrival time. Call 586-909-2052.
- An alternate person may be appointed to open.
- Members may arrive before or stay after the scheduled open house time.
- Dates are subject to change or cancellation depending on weather or staff availability.
- Postings to the Yahoo Group and/or email no later than 2 hours before starting time in case of date change or cancellation.
- It is best to call or email the 2nd VP at least 2 hours before the posted opening with any questions. Later emails may not be receivable (secondvp@warrenastro.org).
- Generally, only strong rain or snow will prevent the open house... the plan is to be there even if it is clouded over. Often, the weather is cloudy, but it clears up as the evening progresses.

# Stargate Report

## March Open House

The observatory opened about 6:30 pm. The sky was clear. Roughly 60 people came to the open house including club members, a group of scouts, and new visitors. We used the 8-inch refractor to observe several objects including Jupiter, Deep Sky Objects, Double Stars, and the Moon. There were a few telescopes set up outside the observatory used for observing and astrophotography. The observatory was closed after all visitors left about after 11:30 pm.

Thanks to the members who helped with observing and answering questions. We had a very good observing session.

## April Open House

The next open house is scheduled for 8:00pm Saturday, April 27.

**Riyad I. Matti**  
2024 WAS 2nd VP  
Observatory Chairperson

# Treasury Report

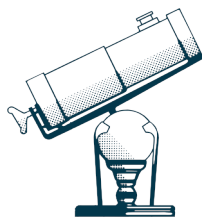
## Month of April

I received a credit card from our bank on the WAS account. The credit card has been used to at the Ukrainian Cultural Center to make a reservation for the end of year dinner on 12-5-2024.

Currently looking at purchasing a new cash box & briefcase to carry money & documents to the WAS meeting.

Current status of WAS account \$26,034.51

**-Dave Baranski**  
Treasurer



Astronomical Events For April 2024		
Add one hour for Daylight Saving Time		
Source: <a href="http://astropixels.com/almanac/almanac21/almanac2024est.html">http://astropixels.com/almanac/almanac21/almanac2024est.html</a>		
Date	Time (h:m)	Event
1	22:15	LAST QUARTER MOON
5	22:51	Mars 2.0°N of Moon
6	4:20	Saturn 1.2°N of Moon: Occn.
7	11:39	Venus 0.4°S of Moon: Occn.
7	12:53	Moon at Perigee: 358850 km
8	7:20	Moon at Ascending Node
8	13:17	Total Solar Eclipse; mag=1.057
8	13:21	NEW MOON
10	14:00	Mars 0.4°N of Saturn
10	16:08	Jupiter 4.0°S of Moon
11	7:38	Pleiades 0.4°N of Moon
11	18:00	Mercury at Inferior Conjunction
15	8:47	Pollux 1.5°N of Moon
15	14:13	FIRST QUARTER MOON
18	6:14	Regulus 3.6°S of Moon
19	21:09	Moon at Apogee: 405625 km
22	2:00	Lyrid Meteor Shower
22	5:45	Moon at Descending Node
22	21:02	Spica 1.5°S of Moon
23	18:49	FULL MOON
26	15:00	Antares 0.3°S of Moon



# Outreach

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## Outreach:

As I type I am falling into full eclipse panic mode, but that is my problem. I am always looking for volunteers for upcoming events, if you are interested please reach out to me. I am also always trying to reach out to more organizations for potential outreach opportunities.

## March:

Mark Kedzior spoke on the eclipse to 37 people at the Grosse Pointe Central Library on the 9th.

Bob Berta and Angelo DiDonato spoke on general astronomy at the Chesterfield township library. Speaking to 15 kids and adults on the 12th, and 26 adults on the 20th

Jeff Macleod spoke to a handful of kids and parents at the Discovery Center in Mt.Clemens on the 23rd

## Upcoming:

(These are events we are actively looking for volunteers for)

Dale Partin will be at Cranbrook Institute of Science on April 8th for the partial solar eclipse.

Statewide Astronomy Night at Belle Isle is looking for people with scope, Saturday night, April 12th

The Discovery Center in Mt.Clemens would love to have a volunteer to speak with guests on the 27th from 12-4pm.

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# Meeting Minutes

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## W.A.S. General Meeting

### March 4, 2024, Cranbrook

A group of 30 people at Cranbrook joined board members present and we had 8 on Zoom, 6 on YouTube.

The Meeting started on time at 7pm and went live introducing W.A.S. President Bob Trembley

Bob recognized first-time attendees and asked where they hear about us? Bob noted to attendees that it's easy to join or renew your membership via PayPal on our website, or with David at the snack break. If anyone wants a lanyard-ready WAS badge, let the secretary know. Your badge will be available at a future meeting. Roll Call was called as tradition. Several board members were present along with several new attendees.

There were several announcements. The Paul Strong scholarship has been awarded. Look for more details in the History SIG page in the March 2024 issue. The Apr 1st meeting will be a social gathering - (see details below) food items appreciated. On Sunday March 17th Brother Guy J. Consolmagno, speaking as a Jesuit scientist, examined how Galileo's work challenged, and was challenged by the science of the day presenting "A Vatican Astronomers View of Galileo," to a full, standing room crowd at Cranbrook. Also there may still be a couple WAS Calendars left for \$15 and WAS wearables are purchasable from Mark Kedzior - you can check what's available in the newsletter (or with Mark if he's in attendance at the meetings, shoot him an email to check on availability) We are looking to summarize what WAS Swag is available.

If you haven't figured out what you are going to do for the April 8th total solar eclipse - you need to... President Bob Trembley and his wife will have a table at the National Museum of the USAF at Wright-Patterson Air Force Base, near Dayton, Ohio. Reach out to Jeff for registration details. Ken Bertin eclipse trip via plane - 7 seat (most expensive), 15-seater or 30 seater - contact Ken for more details. We need ideas, things, and action to put things in the Stargate Observatory Message board. Charles Strackbein suggested students or scouts may be a good choice to offer the space to put celestial presentations such as phases of the moon or other studies. The Annual picnic at pavilion by Stargate is planned for Aug. 24, 2024. Michigan Science and Engineering Fair is looking for judges. Contact: Michael Jurban - mikejurbansenior@yahoo.com

Officers' reports were made by President Bob Trembley, 1st VP Dale Partin, 2nd VP Riyad Matti, Treasurer, David Baranski, Secretary Charlie Strackbein, Outreach Jeff Macleod, Publications Vatsalya Dandibhotla. Report details can be found in the WAS Meeting recordings on our You Tube Channel.

If you need to contact the board, you can email us at: board@warrenastro.org

Announcements were made and noted we need volunteers for a spring cleanup during the April 27 open house. There will be an open house for the Perseids meteor shower on August 10.

The picnic and open house are being planned for August 24.

## Astronomy In the News

Astronomers recognized 3 new solar system moons: one orbiting Uranus and the other two orbiting Neptune they were spotted by researchers at the Carnegie Institution for Science. This puts the outer planets' moon counts at 28 for Uranus, and 16 for Neptune.

These moons were discovered (in some cases) over the course of a few years, and required a special imaging method in order to separate them from the stellar background

Special Interest Groups were led by David Levy with some Solar - SDO Images and double Star / Perseids observations by Riyad and notes of a large group of visiting stargazers at Stargate

An appeal was made by President Bob Trembley to start a special interest group, great! Things like Radio, Computers and Technology, Education, Light Pollution, Podcasting,

Observing Reports / Astro photos

## Short Talk

A short talk was presented by President Bob Trembley and focused on Asteroid Occultations and what we can learn from observations.

Snacks are brought to us by Mike O'Dowd and Laura Wade.

## Main Talk

Our main presentation was presented by Zachary Garner and Kyle Kary and they featured their property and the Open Skies Project at the Calumet Air Force Station way up in the Keweenaw Peninsula in the UP. They focused on its history, current status and future plans. They presented many photos supporting their project details.

## Announcements:

Our next meeting will be Monday April 1st at Cranbrook for our "Astronomy Entertainment" and Social. Hope to see you there. Our next open house and star party at Stargate Observatory will be Sat. April 27th at Dusk.

End Meeting mended around 9:15pm

Several members met afterward at Red Coat Tavern

Respectfully submitted by:

**C. Strackbein**  
WAS Secretary

## W.A.S. General Meeting March 21, 2024, Macomb

Attendance: President Bob Trembley, 1st VP Dale Partin, 2nd VP Riyad Matti (online), Treasurer, David Baranski (Online), Secretary Charlie Strackbein, Outreach Jeff Macleod, Publications Vatsalya Dandibhotla (Online) and March 2024 Newsletter editor and publisher Dale Thieme

Also in attendance was Bob Berta, Mike O'Dowd, Mark Kedzior, and 4 or 5 long time members that I'm just getting to know including Dale, Mike a few others

Online attendance accounted for were 9 in Zoom, 2 on YouTube and 15 overall in the room.

Meeting starts on time at 7:00pm. YouTube went live with introduction by W.A.S. President Bob Trembley followed by a round of introductions and initiated the Roll Call and recognized first-time attendees and

asked where they heard about us? There were no new members in the room.

President Bob Trembley noted to attendees that it's easy to join or renew your membership via PayPal on our website, If anyone wants a lanyard-ready WAS badge, let the either the secretary or Publications know (publications@warrenastro.org). Your badge will be available at a future meeting.

There were several announcements. A couple of 2024 WAS photo Calendars may still be available for \$15 as well as WAS wearables and they are purchasable from Mark Kedzior - you can check what's available elsewhere in this newsletter (or with Mark if he's in attendance) If you haven't figured out what you are going to do for the April 8th total solar eclipse - you need to... President Bob Trembley and his wife will be representing the WAS at the National Museum of the USAF. For those who are NOT going to see the total eclipse, we could really use help at Cranbrook to help people see the partial eclipse there. Please let Dale Partin know if you can help with this. We need Stargate Message board use ideas and related things to put in it. Our next meeting on April 1st at Cranbrook will not have a long presentation, but feature "Astronomy Entertainment" and a group Social.- in the space by the gift shop in the lower level lobby; members are encouraged to bring snacks and munchies; the board will provide drinks, cups, plates and such.

Officers reports were made by President Bob Trembley, 1st VP Dale Partin, 2nd VP Riyad Matti, Treasurer, David Baranski, Secretary Charlie Strackbein, Outreach Jeff Macleod, Publications Vatsalya Dandibhotla and Newsletter editor and publisher Dale Thieme. Report details can be found in the WAS Meeting recordings on our You Tube Channel. If you need to contact the board, you can email us at: board@warrenastro.org

About 7 WAS members attended the standing room only audience presentation by Br. Guy at Cranbrook Sunday March 17th. The Overflowing attendance were treated to a very special presentation of Br. Guy speaking as a Jesuit scientist, examining how Galileo's work challenged, and was challenged by the science of the day in presenting "A Vatican Astronomers View of Galileo.". President Bob Trembley and his wife took him out to dinner afterwards - he had a Vernors and a Coney Dog! Of note : Brother Guy J. Consolmagno is a Detroit native with several curved ties to Detroit. Brother guy has written some Astronomy's most popular and influential books including "Turn Left at Orion and several other that you can find on Amazon.

Special Interest Groups were led by David Levy with some Solar - SDO Images and Double Stars / Perseids observations by Riyad and notes of a large group of visiting stargazers at Stargate

An invitation to get more involved with the club was put forth by President Bob Trembley to start a special interest group. Radio, Computers and Technology, Education, Light Pollution, Podcasting were suggested,

## Feature Talk

First VP Dale Partin introduced Bob Berta, who gave a highly informative "Solar Imaging" presentation by discussing what it takes to get into solar astrophotography and how to image our nearest star. Bob noted that there are more clear days than nights in Michigan .... and you don't have to travel any farther than your house to get fantastic photos. Bob said the equipment is generally a lot less expensive than deep sky gear and light pollution is not necessarily an issue, and the best part..... no mosquitoes! Bob showed some of

his best photos and noted the sun is moving into "Solar Max" part of its 11 year cycle which means a lot of dramatic activity and potentially GREAT photos.

Our next star party and open house at Stargate Observatory will be Saturday April 27th

Our next Board meeting will be via Zoom in four days - Monday March 25<sup>th</sup>.

Our next General meeting will be at Cranbrook on April 1st followed by our May Cranbrook Meeting on Monday, May 6th. The meet was called at 9:07pm

About 7 members met afterwards at the National Coney Island on Groesbeck.

## W.A.S. Board Meeting Minutes

### March 25, 2024

Board attendance: President: Bob Trembley, 1st VP: Dale Partin, 2nd VP: Riyad Matti, Treasurer: David Baranski, Secretary: Charles Strackbein, Outreach: Jeff Macleod, Publications: Vatshalya Dandibhotla

### Officer Reports

President: Bob Trembley mentioned his Meteor Occultation short presentation in a week, Br. Guy's talk at Cranbrook was PACKED - there were several (5-7?) WAS members in the audience.

1st VP: Dale Partin: Dale has long presentations, but and needs short talks, can do himself, if necessary, Scholarship was awarded to Lauren Mount, and she has been notified. We are waiting on a summary of items in box from 1984.

Observatory Chair: 2nd VP: Riyad Matti: Stargate report- arrived around 6:16pm or so. crisp, clear nights Jupiter was high up in the sky with very good resolution., Good observing, about 60 people again 4 of dales students a little colder than last month but just as good of turn out, clear skies, Dome had ice and still needs fixing. Next open house at the observatory spring cleaning April 27th. Need help with cleaning.

Treasury Report: David Baranski said we had \$26, 934.00 on our account, details in WASP. Signed contract with Ukrainian cultural center December. 5 question of expenses, Buy briefcase, buy lock box decided to buy on Amazon in 2 separate purchases, questions of what to do with deposited checks - Decided to shred checks after 1 month as suggested by Bob and 1 month wait time added by Dale seconded by Charles Strackbein, Non Profit Tax Statements need to be looked at, PayPal access for Bob and Charlie, Bank of America - ATB Form on our letterhead (Charles, David, Bob) Handled at Cranbrook Meeting ,

Quotes on dome: Dome - fiberglass was discussed, considered too cheap. Riyad says we need a metal dome like the one we have. 12' dome rather than 10 ft, but more expensive. Metal dome - 12-foot because it fits. Verify notes at next Board Meeting. Aluminum dome on cinder-block, would need a construction detail for estimate. quick estimate is about \$17,000 for 10ft dome. Bob suggested a funding drive for the dome.

Secretary Report: working on minutes and meeting notes,

Outreach Report: Jeff Macleod, Date for annual picnic at pavilion by Stargate - Aug. 24, 2024, 4:00 PM (4th Sat. in Aug) NASA Night Sky Network-Bob and Jeff: to set a date and have an hour-long meeting., Jeff Macleod now has an NSN account, Meeting with Michigan Mineralogical Society (MMS) - Cranbrook, Jul 8 - Combined meeting with MMS - need to Follow-up with

both & advertise them. Swap meet - refer to Jeff and Mark Kedzior:

Publications Report: in the works.

### Old Business:

Bank of America - ATB Form on our letterhead (Charles, David, Bob), handled at Cranbrook Meeting, Date for annual picnic at pavilion by Stargate - Aug. 24, 2024, 4:00 PM (4th Sat. in Aug), PO Box Authorized Users for 2024. Need new individuals to update document on file at Warren PO (Mark?), Key returned from Adrian needs to get passed to new user.

Promo Video - LINK Final edits finished.- what do we do with it? when to advertise with club and public, Advertise and share the word in Website, Mailer, Social media, Best Practices Doc. Bob would like to see a calendar for board use, with suggestions for: Start of year: send out letter, urge sign-ups, Update board email list, AATB - when to pay fee, when to advertise with club and public, Paul Strong scholarship - when to start paying attention to it, and the process, Elections - when to start paying attention to it, and the process, Banquet - when to start paying attention to it, and the process, Before start of year - reserve pavilion for picnic, Tax form 990-N, New Business, Marty Kunz in Beaumont in yellow central tower room 4747 - Send out an email blast - He'd like company, April 1 - Social meeting at Cranbrook with video from Dale. Members were asked to bring desert or munchies to pass around, but not to expect to feed everyone. Send out an email blast (or update existing on Mailchimp) (complete), Macomb Room booked through November (Thanks Dale!) Banquet venue reserved for (Dec.5th) Outreach: Belle Isle - Statewide Astronomy Night Apr. 12, Send out an email blast, Eclipse - Apr. 8 Cranbrook - Dale P is staying. I think we should get him something.... Re: June 8 & 9 - They want help with a BIG event at Selfridge - June 8 & 9th - we need more info, when do we need to start working on the next Paul Strong Memorial Scholarship? Start in Jan. Send funds in Jan., IT Access for Board members - what needs to be done? Google Drive and PayPal (Charlie, Bob T.), Banquet speaker ideas needed, it may be a bit early, but need lots of lead time. Board Officer reports for newsletter - get them to Dale. Moved Board Meeting from May 27 (Memorial Day) to May 20th, what do we need to do with 501C3 Documentation this year? To Dos: What other governmental things do we have to each year? Get with Dale T. about Tax form 990-N.

Stargate Dome - What needs to be done (Motor and gear box on Dome - motor is good, gear box is worn out completely. 6inch x6inch x2 inch, ~ 19 rpm, torque = 100 lb.-ft (conveyor-belt - like) 220v single phase (110v preferred)

Respectfully Submitted by:

**C. Strackbein**  
**WAS Secretary 2024**

The Warren Astronomical Society is a proud member of the

# Great Lakes Association of Astronomy Clubs

GLAAC is an association of amateur astronomy clubs in Southeastern Michigan who have banded together to provide enjoyable, family-oriented activities that focus on astronomy and space sciences.

Club Name and Website	City	Meeting Times
Astronomy Club at Eastern Michigan	University Ypsilanti/EMU	Every Thursday at 7:30PM in 402 Sherzer
Capital Area Astronomy Club	MSU/Abrams Planetarium	First Wednesday of each month 7:30 PM
Farmington Community Stargazers	Farmington Hills	Members: Last Tuesday of the month Public observing: 2nd Tuesday of the month
Ford Amateur Astronomy Club	Dearborn	Fourth Thursday of every month (except November and December) at 7:00 PM
McMath-Hulbert Astronomy Society	Lake Angelus	Board and paid members-First Sunday of the month
Oakland Astronomy Club	Rochester	Second Sunday of every month (except May)
Seven Ponds Astronomy Club	Dryden	Monthly: generally the Saturday closest to new Moon
Sunset Astronomical Society	Bay City/Delta College Planetarium	Second Friday of every month
University Lowbrow Astronomers	Ann Arbor	Third Friday of every month
Warren Astronomical Society	Bloomfield Hills/Cranbrook & Warren/MCC	First Monday & third Thursday of every month 7:30 PM

## Club and Society Newsletters

Warren Astronomical Society:	<a href="http://www.warrenastro.org/was/newsletter/">http://www.warrenastro.org/was/newsletter/</a>
Oakland Astronomy Club:	<a href="http://oaklandastronomy.net/">http://oaklandastronomy.net/</a>
McMath-Hulbert Astronomy Club	<a href="http://www.mcmathhulbert.org/solar/newsletter/">http://www.mcmathhulbert.org/solar/newsletter/</a>
Ford Amateur Astronomy Club:	<a href="http://www.fordastronomyclub.com/starstuff/index.html">http://www.fordastronomyclub.com/starstuff/index.html</a>
University Lowbrow Astronomers:	<a href="http://www.umich.edu/~lowbrows/reflections/">http://www.umich.edu/~lowbrows/reflections/</a>

## WAS Member Websites

Steven Aggas: <http://apache-sitgreaves.org/>

Jon Blum: [Astronomy at JonRosie](#)

Doug Bock:

Facebook: Northern Cross Observatory: <https://www.facebook.com/NorthernCrossObservatory>

Boon Hill and NCO Discussion <https://www.facebook.com/groups/369811479741758>

Flickr (astrophotography album): <https://www.flickr.com/photos/141833769@N05/>

YouTube channel: <https://www.youtube.com/channel/UC-gG8v41t39oc-bL0TgPS6w>

Bob Trembley:

<https://www.vaticanobservatory.org/profile/rtrembley>

[Vatican Observatory Foundation Blog](#)



This article is distributed by NASA's Night Sky Network (NSN). The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

## Participate in Eclipse Science

By Kat Troche

April is NASA's Citizen Science Month, and there is no shortage of projects available. Here are some [citizen science projects](#) that you can participate in on April 8th, on and off the path of totality right from your smartphone!



Eclipse Soundscapes, ARISA Lab / NASA

### Eclipse Soundscapes

**Eclipse Soundscapes** will compare data from a 1932 study on how eclipses affect wildlife - in this case, crickets. There are a number of ways you can participate, both on and off the path. NOTE: you must be 13 and older to submit data. Participants 18+ can apply to receive the free Data Collector kit. Learn more at: [eclipsesoundscapes.org/](https://eclipsesoundscapes.org/)

### GLOBE Eclipse

Folks that participated in the **GLOBE Eclipse 2017** will be glad to see that their eclipse data portal is now open! With the GLOBE Observer smartphone app, you can measure air temperature and clouds during the eclipse, contributing data to the GLOBE program from anywhere you are. Learn more at: [observer.globe.gov/do-globe-observer/eclipse](https://observer.globe.gov/do-globe-observer/eclipse)

### HamSCI

HamSCI stands for **Ham Radio Science Citizen Investigation**. HamSCI has been actively engaged in scientific data collection for both the October 14, 2023, annular solar eclipse and the upcoming April 8, 2024, total eclipse. Two major activities that HamSCI will be involved in around the solar events will be the **Solar Eclipse QSO Party (SEQP)** and the **Gladstone Signal Spotting Challenge (GSSC)** which are part of the HamSCI Festivals of Eclipse Ionospheric Science. Learn more about these experiments and others at: [www.hamsci.org/eclipse](http://www.hamsci.org/eclipse)



## SunSketcher™

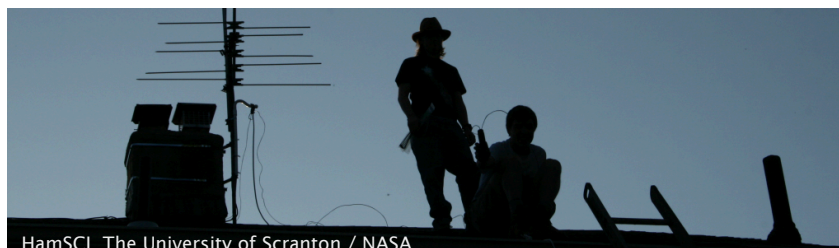
SunSketcher, Western Kentucky University / NASA

### SunSketcher

If you're traveling to totality, help the **SunSketcher** team measure the oblateness, or shape, of the Sun during the eclipse by timing the flashes of Baily's Beads. You will need a smartphone with a working camera for this, along with something to hold the phone in place - don't forget a spare battery! NOTE: The app will need to run from five minutes before the eclipse starts until the end of the eclipse. Any additional phone use will result in Sun Sketcher data loss. Learn more at: [sunskecher.org/](https://sunskecher.org/)

Don't stop at the eclipse - NASA has citizen science projects you can do all year long - from [cloud spotting on Mars](#) to [hunting for distant planets](#)! By contributing to these research efforts, you can help NASA make new discoveries and scientific breakthroughs, resulting in a better understanding of the world around us, from the critters on the ground, to the stars in our sky.

We'll be highlighting other citizen science projects with our mid-month article on the [Night Sky Network](#) page, but we want to wish all you eclipse chasers out there a very happy, and safe solar eclipse! For last minute activities, check out Night Sky Network's [Solar Eclipse Resources section](#)!



HamSCI, The University of Scranton / NASA