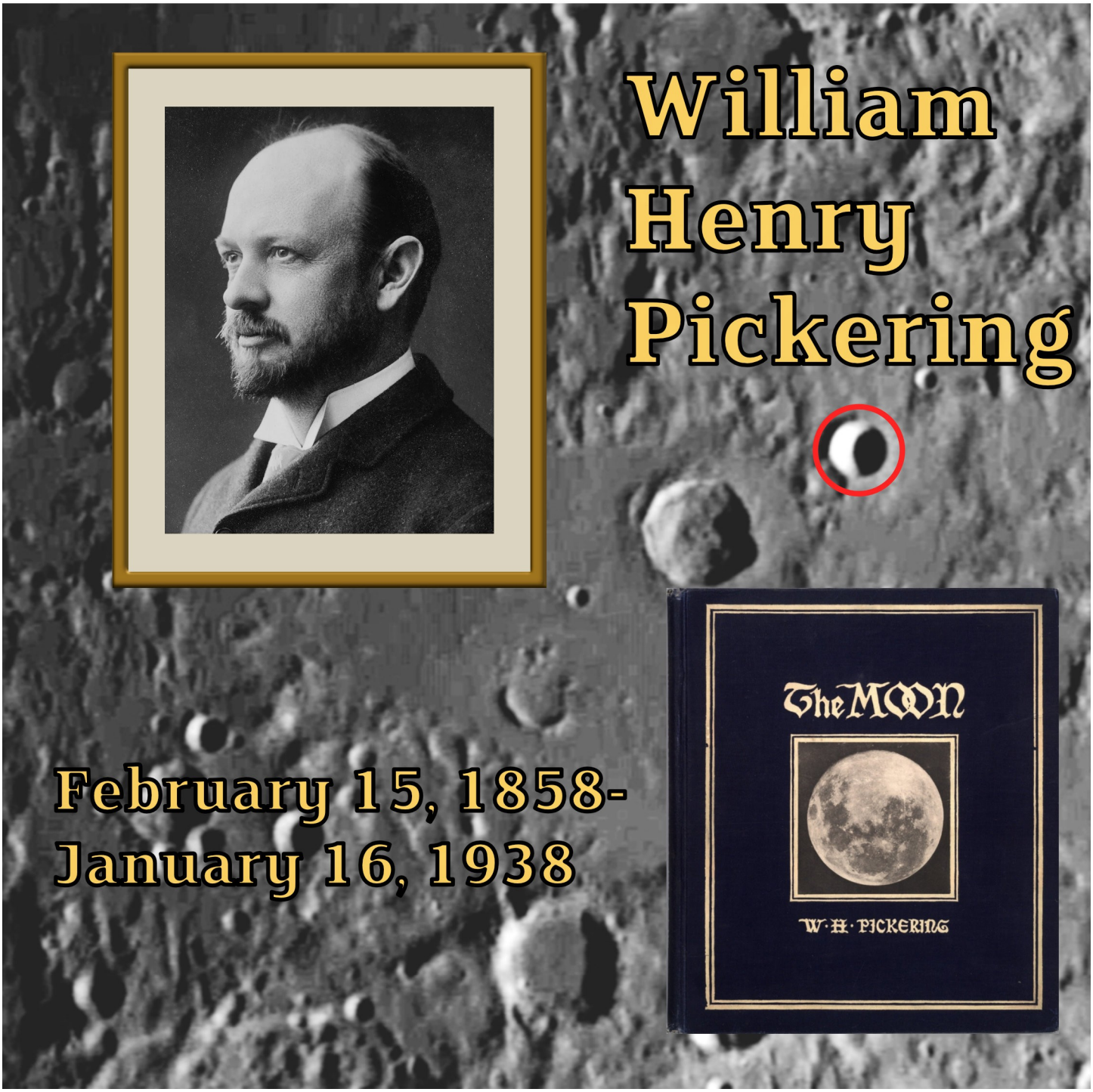
The W.A.S.P.

Volume 58 Issue 2

February 2026

The Warren Astronomical Society Publication



The WASP

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

Dale Thieme, Editor

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) $9.00

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)

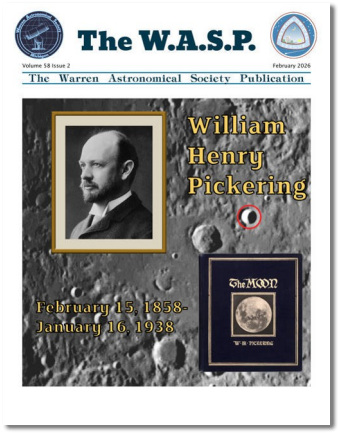
Disclaimer: The articles presented herein represent the opinion of their authors and are not necessarily the opinion of the Warren Astronomical Society or this editor. The WASP reserves the right to edit or deny publication of any submission.

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.

In This Issue

Field of View 3
WAS Apparel Price List 5
Presentations 6
Skyward 7
Every Picture Costs a Fortune, Don't It? 8
Over the Moon 10
History S.I.G. 11
Sky Chart 12
Calendar 13
Stargate Observatory 14
Treasury Report 15
Stargate Report 15
Astronomical Events 15
Meeting Minutes 16
Where was W.A.S.? 17
GLAAC 18

About the Cover



This month we (meaning me, the editor) celebrate the birth of the "other" Pickering. William was accomplished in astronomy, like his older brother, Edward, discovering the 9th moon of Saturn, leading expeditions for solar eclipses, establishing several observatories, and (my favorite) producing a lunar atlas, "The Moon: A Summary of the Existing Knowledge of our Satellite". A photographic atlas that was the first of its kind to identify lunar features by coordinate grids. The crater, Pickering, honors both brothers (I checked, lunar tomes occupy about a fourth of the astronomical part of my library.) This naming is also unusual in that the crater was named while the honorees were still alive. The crater is the one marked on the cover. The image was taken by Rik Hill in 2019.

Field of View

The Warren Astronomical Society turns 65 this year, which is terrifying to me because it feels like our celebrations of the 50th anniversary were just a few years ago.

This year also will mark the 20th anniversary of my first regular club meeting; the Society was still in the process of emerging from a rather bad time in its history in late 2006 and the pressing issue of that season was an opt-in/opt out phone list and the risks it posed to members' privacy. The march of time itself has taken care of the phone list issue, but that's not the case for many of the issues the Society continues to face.

Expanding our membership, and in particular expanding the pool of active members who take on leadership roles, is a perennial problem. Time is our enemy there; many stalwarts from two decades ago have stepped back or left the planet entirely. We presently are looking for a Secretary, a Treasurer, and a Snack Captain. The current five officers are assisted by a small number of behind-the-scenes members who do incredible work, but realistically we need to double those numbers.

Maintaining Stargate is a never-ending task; I remember when it was an empty pit with a leaky roof, and while those days are thankfully behind us, it's only due to the diligence of Riyad Matti and our Stargate crew that we keep the elements at bay. The Stargate complex is a jewel, and one of my goals is to see the expansion of it to fruition, but it's a jewel that takes effort to polish.

So. New year, new administration, familiar problems. We have work to do.

Diane Hall
President

WAS Merchandise

Available at Cranbrook and Macomb meetings

WAS Logo Stickers

$1.00 ea.
$5.00 for 7

WAS Pins

$2.50
Each

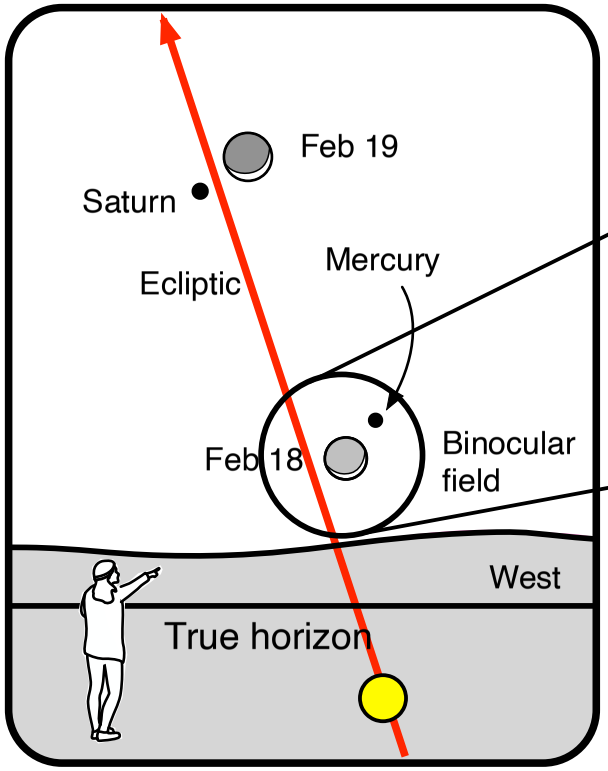
WAS Bandana

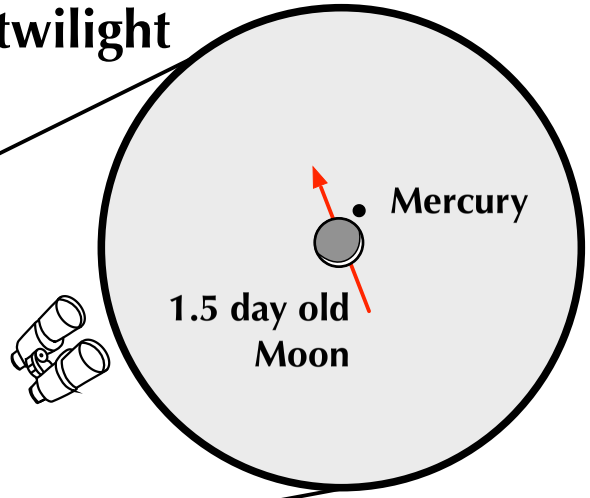
$5.00
Each

Astronomical Bandanas, featuring 33 Glow in the dark constellations and a WAS logo.

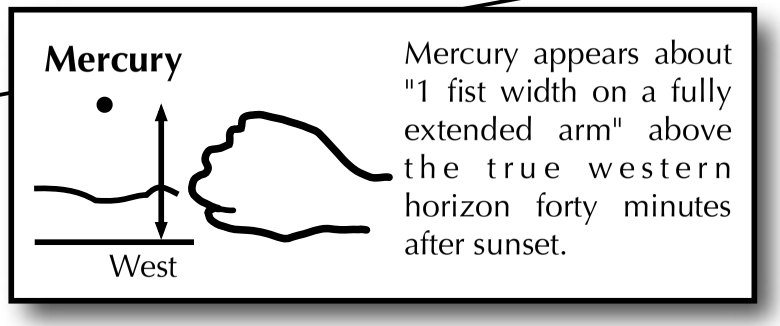
Endorsed by the Unicycle Cowboy!

Mercury and the young moon in the bright evening twilight





View through 10x50 binoculars on February 18



February 18 and 19, 2026:
Mercury and the young crescent moon forty minutes after sunset in the west

The young moon & Mercury in the evening twilight

Have you ever spotted Mercury? Many stargazers have not. The early evening scene on February 18 presents a good opportunity to catch the elusive little planet. Look low into the western twilight forty minutes after sunset.

- Using binoculars, look on February 18 for the very thin crescent Moon floating either below or left of Mercury. Can you see Earthshine on the Moon's dark side or is the twilight too bright? The Moon may be difficult to spot appearing as a washed-out sliver. Some areas in the extreme southcentral US might see the moon occult the planet before the twilight brightens too much.
- On the next evening, Mercury is in the same place, but the moon has moved higher and next to Saturn.

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

HOODIE W/Pockets

Black Only (at this time) – one imprint

Small – XL $27.00
2XL $33.00
3XL $34.00

IMPRINT LOCATIONS:

Front left chest (3 ¼" logo)

Front or back (9" or 10" logo)

Back (12" logo for jackets or sweater)

Combination front left chest (3 ¼" logo) and back (9", 10" or 12" logo) – add $7.00

Choose when placing order

LOGO COLOR SCHEMES:

Black background with gold/yellow artwork and lettering

Black background with blue lettering and gold/yellow artwork

Choose when placing order

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 with any questions

---

IMPRINT ON YOUR OWN CLOTHING ITEM: Logo + Imprint Charge

3 ¼" Logo - $8.00 **9" – 10" Logo – $12.00** **12" Logo - $15.00**

LOGO COLOR CHOICES

Gold/Blue

Gold-3D

Legacy

Presentations

Cranbrook
7:00 pm, February 2, 2026

Main Talk

Telescope Interferometry
-Stars and Exoplanets

By Dr. John Monnier

An astronomical interferometer is a telescope array, mirror segments, or radio telescope antennas that work together as a single telescope to provide higher resolution images of astronomical objects means of interferometry. Dr Monnier will explain the process and cover new developments in the field.

About the Speaker

John Monnier is an expert in optical/infrared interferometry and is the instrumentalist responsible for MIRC-X (the Michigan Infrared Combiner + Exeter upgrade) and MYSTIC (Michigan Young STar Imager at CHARA), beam combiners that allow all six of the telescopes at Georgia State University's CHARA Array to work together. He is interested in the direct detection of exoplanets and in studying how planets form in circumstellar disks. Professor Monnier is also developing technologies for a future space interferometer, beginning with a formation-flying cubesat mission.

Short Talk

Monitoring Jupiter With Radio Waves

By Tom Hagen

Amateur radio astronomers can actually receive radio emissions from Jupiter! The emissions are caused by an interaction between Jupiter and its closest moon Io. The emissions occur at predictable times so you can watch for them when expected or have a look at stored data after the fact. There is a NASA-sponsored project called Radio Jove that provides a design for a standard receiving setup; people all over the world make observations and compare results with these setups.

About the Speaker

Tom Hagen has been an amateur astronomer on and off since his high school years in the 1970's. Tom's a member of several astronomy groups besides WAS: McMath-Hulbert Astronomical Society, Oakland Astronomy Club, and the Society of Amateur Radio Astronomers. Tom (ham radio call NE9Y) is a retired electrical engineer who worked in the automotive industry battling electrical noise issues on a car you may be driving.

Macomb
7:00 pm, February 19, 2026

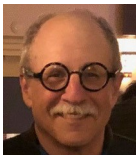
Feature

In the News- Review of 2025

By Ken Bertin and Dale Partin

Ken and Dale take us back through the astronomical news events of 2025. Ken will discuss the advances and discoveries of astronomy in the solar system. Dale will cover deep space discoveries and advances.

About the Speakers



Ken Bertin is a past President and VEEP of the Warren Astronomical Society, winner of the E. John Searles Award and a lifetime membership. He observed 13 Total Solar Eclipses, 6 Annular eclipses, 6 Transits of Mercury, 2 transits of Venus, and 15 Lunar eclipses. He is currently presenting online to schools and other organizations. **Dale Partin** has a doctorate from Carnegie-Mellon University (1978). He bought his first telescope in 1997 and joined the Warren Astronomical Society in 1998. He has been an officer at least half the time since then. He also teaches astronomy at Macomb Community College.

Next Month

Cranbrook
Main Talk

Lunar Imaging
Short Talk

Measuring the Distance to the Moon

Macomb
TBD

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 Jonathan Kade at: firstvp@warrenastro.org.

Skyward

David H. Levy

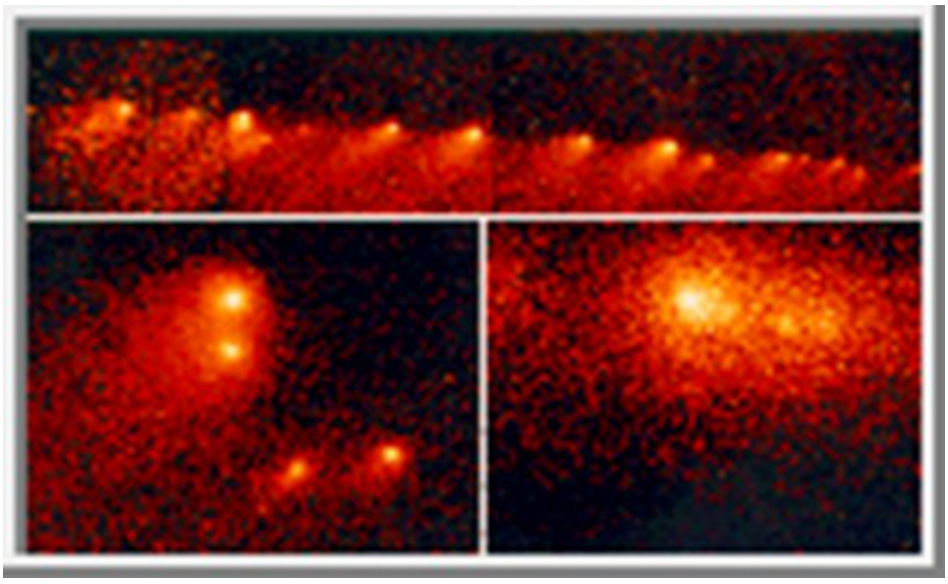
A few minutes before midnight on 17 December 1965, I began a program of hunting for comets and exploding stars, or novae. I recall writing at the time that when I began, the interest would primarily be in comets. It still is, even though I independently discovered Nova Cygni 1975 (V1500 Cygni), and a second nova Cygni (V1668 Cygni) in 1978. I also remembered thinking that while discovering a comet is hard, searching for one is easy. I was 17 years old.

A few minutes before midnight on 17 December 2025, I completed sixty years of comet hunting. Years ago, I proposed to Wendee that I might stop. Almost annoyed with me, she asked if I still enjoyed it as much as ever. Yes! "So why would you even consider stopping something that brings you so much joy?" Comet hunting still brings me as much delight as ever, and thus I continue to search whenever and wherever I can.

When I began, the sport seemed to be a good fit for my personality. I was quite shy and withdrawn as a kid, even more so as a teenager. Gravitating towards activities that kept me apart from other people, I even decided not to tell anyone, even my own family. As I grew older, my inhibition gradually faded. By the time I discovered my first comet in 1984, I had relocated to southern Arizona where clear nights were more the rule.

My program expanded momentously when I joined the Shoemaker team. In 1991 we discovered seven comets together, plus a new periodic comet I found on my own. The following years, 1992 and early 1993, saw no new comets for me or for us. All that changed on 23 March 1993, when I loaded a film into the 18-inch diameter Schmidt camera at Palomar Mountain Observatory. Two days later Carolyn uttered her now-famous line, "I think I have discovered a squashed comet," that changed our lives forever. Gene died in an auto accident in 1997, and Carolyn passed away in 2021. I am the only one of our threesome that is left.

In recent years, I have become introverted once again. I am surrounded by excellent friends and family, but losing Wendee was very difficult. But there is one saving grace. On a starry night I walk out to my observatory and open it. Seeing the stars still gives me more happiness than I can ever expect. What began in 1965 has offered fulfillment, peace, and experiences I shall always cherish.



Comet Shoemaker-Levy 9 just before its impacts with Jupiter. NASA photograph.

Every Picture Costs a Fortune, Don't It?

By Brad Young, Astronomy Club of Tulsa

For most of the last thirty years I have been talking trash to imagers, describing how they are residents of the Dark Side, but still go to bed at sundown, letting the camera do all the work. I reminded them how closely the words imaging and imagining are spoken and spelled and many other vituperous statements that should have gotten me slapped. But now, I've decided to stick a toe into the dangerous waters of astrophotography. This is my attempt to pass along what I've seen so far in the first month, so whether a reader is thinking of doing the same thing or she developed her film pictures in her home darkroom and wants to revisit the perilous journey they can do so at my expense (and there is plenty of expense…)

My experience in imaging consists of using telescope services and observatories with varying levels of user involvement and control. But to progress, I needed to start getting more hands-on. The popular reasons to avoid this were true for me – too expensive, steep learning curve, Hubble will always beat me at whatever images I try, etc.

At Christmas I bought a Seestar S50 to do this experiment and exploration. I've been very impressed with it so far and think it's a great entry level scope for imaging. I'm not going to do a full review; there are plenty of those anyway all over the internet. Equipment aside, what I've noticed is the change in operating approach that has occurred by changing observing technique

With each mode, there are positives and negatives. Let's start with my negative feedback.

Imaging includes a loss of that tactile "I'm here looking at this now" feeling that you get looking through the eyepiece. Of course this is not binary choice, you can still use your visual equipment, but that requires setting up another telescope or hanging appurtenances from your mount. There's always scanning the skies with your eyes or binoculars, nothing wrong with that. And I still think it's important to learn the constellations and how the sky works and you can't do that just sitting troubleshooting your equipment. Loss of immediacy and immersion, gratification some people find to be the best part of amateur astronomy, does occur when imaging.

Another one in the "con" column is that problem solving and troubleshooting. After years of watching people curse at un-alive metal tubes and fiddle with wires in the darkest hours of night, I knew something always seems to go wrong with imaging equipment. Either built into the software / hardware, or if just part of the ether of the universe, there is always a problem, every night every session. This fact is immutable as a fundamental constant like pi; even the Seestar has its glitches. And it just seems to get worse as you get into more complicated equipment. The Seestar is not well built for planetary imaging; it sports a large field of view and low magnification. So, I brought out my Meade ETX 125, a five-inch Maksutov with folded optics and long focal length - great for planetary imaging. So far, the software has recognized the camera once and not again.

Processing aka Artificial Imagineering

> "What man does; man can fix." Gilly [a South African under apartheid], *Holidays in Hell* by P.J. O'Rourke

Then there's the part of imaging that visual observing has no comparable or equivalent example of workflow: processing. As a process engineer for thirty years, you would think I would look forward to it, but this work is very different. As many readers know, image processing is all about improving the quality of images produced by using techniques such as stacking, removing noise and balancing the color levels and other variables to produce quality output. The imager uses processing software to achieve realistic representation of the subject in balanced tones, aesthetically improved light levels, shadows, and other picture elements.

The Seestar (and others) has an AI algorithm and some other tweaks and bells and whistles installed and takes care of all the calibration images. Exporting stacks of subs as FITS files has yielded spotty improvement so far. Not sure if that means the Seestar native processing software is quite good, or that I don't know what I'm doing, but we know which is the right answer. This early in my experience, it seems you either must commit to pushing for realism or you can choose to allow limited artistic interpretation. And balancing the two is walking a very difficult knife's edge indeed. My preferences will tend towards realism. Most people do like to have some kind of positive feedback for hard work, so they process their images and post them to social media to see what develops [pun intended].

It's easy to end this article on a positive note, because there are many objects suited to smart scopes in the evening sky in this, the first month I've had one. I had frankly grown

The Four Horsemen of Imaging:

DARKS

FLATS

SUBS

BIAS

tired of looking at tiny dim galaxies as I finished off the NGCs. And I'm so glad to go instead to bright items that are large and have detail to them that I can see. Most of my visual observing of late consisted of small objects or clusters of objects that were bright enough to see in my 22" Obsession UC. But there is no way to integrate or stack my vision.

I've always regretted not being able to see nebula very well or to see much color in anything, except maybe the Orion Nebula, a few others, and single stars or components of multiples. Now, I can set up my EAA scope on my front porch in downtown Tulsa, use its light pollution filter and after only a few minutes get a great image of The Orion Nebula or the Horsehead or the Rosette or any of many winter DSOs waiting to be observed in a short time. This is a fantastic addition to my arsenal that I've been waiting to use.

As mentioned above, like any machine it has its issues, starting with user error. Also, the honeymoon can't last forever; everyone works through the easy, bright objects quickly, just as with starting in visual observing. But the Seestar has opened a whole new volume to me (Hands-On Astroimaging) and that's exciting. I needed an infusion of new goals after straining to use my averted vision and other advanced techniques to finish the NGCs.

A big advantage is being able to set your camera outside and go inside to run your plans from your living room off your smartphone. I don't miss the wind and the cold (later the bugs and the humidity). At the Observatory, it's fun to finally be able to have a minute to talk to folks on Visitor's Night and show them on screen what the camera sees while letting the camera run. With the installed Sky Atlas linked, it's easy to select a target and go there in one step, or write a plan for several targets.

One more positive thing and I'll end this month's article. I'm not giving up my 22" Obsession visual telescope - I still plan on using it when the weather is warmer and it's easier to set up and stay outside to get the eyepiece experience that I'm already beginning to miss. And I do like staying dark adapted and being able to see the sky without needing to go outside to do it And pause the TV. But I have to say that not having to deal with the 75-pound mirror and setting up everything all the time including lifting it into the car when I'm taking the telescopes somewhere and having to carry the telescope when I don't really need one for any other purpose is an advantage of the small smart scope. Technology should continue to improve, resulting in smaller, cheaper, and smarter imaging systems that will negate some of the weight and space limitations current with air travel etc. The market will drive improvements to ease the frustrations and system inconsistencies, as impactful technology like EAA Scopes is going to improve amateur astronomy, and that's a good thing.

I know many of you have already been through all this and probably find it a bit amusing to hear such a newbie ramble on. But I'm glad to say that after forty-six years of thoroughly enjoying visual astronomy, I now feel like adding simple imaging projects to my routine has given me more chances to observe, more objects to observe, and new things to learn to keep my hobby fresh and exciting. And after all, isn't being excited about your hobby something that helps you stay with it? Or, if you are new to the hobby, can expand what you learn to do to move from the newbie phase straight to affordable, accessible targets and methods to try.

Join the Astronomical League

The mission of the Astronomical League is to promote the science of Astronomy. The major benefit of belonging to this organization is receiving the quarterly newsletter, The Reflector, which keeps you in touch with amateur activities all over the country.

Also:

- Participate in the Observing Program
- Avail yourself of the League Store
- Astronomy Books at a discount
- Attend Astronomical League Conventions

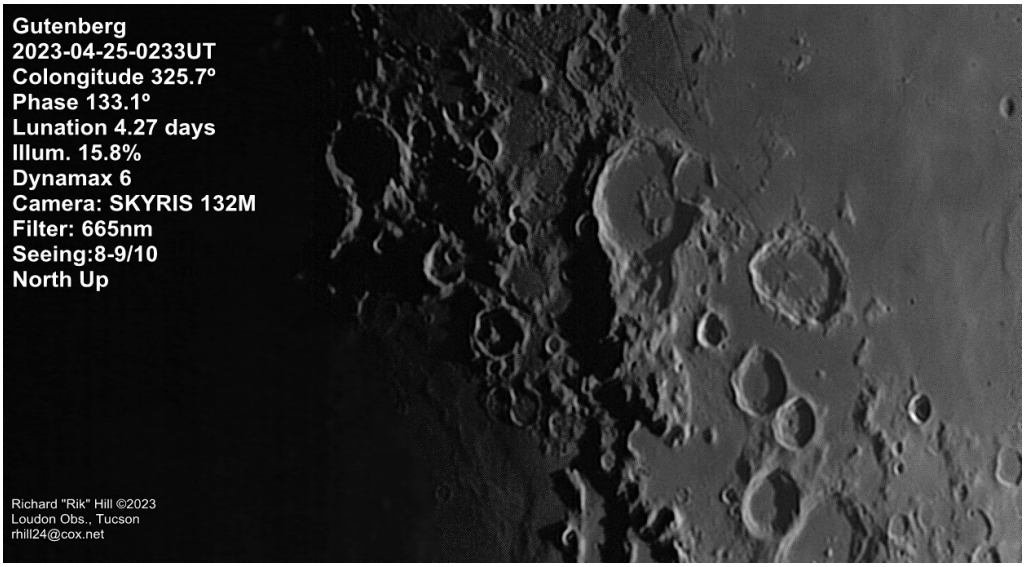
Only $9.00 annually,
(Membership starts July 1)

alcor@warrenastro.org

Over the Moon

With Rik Hill

THE GUTENBERG ISTHMUS

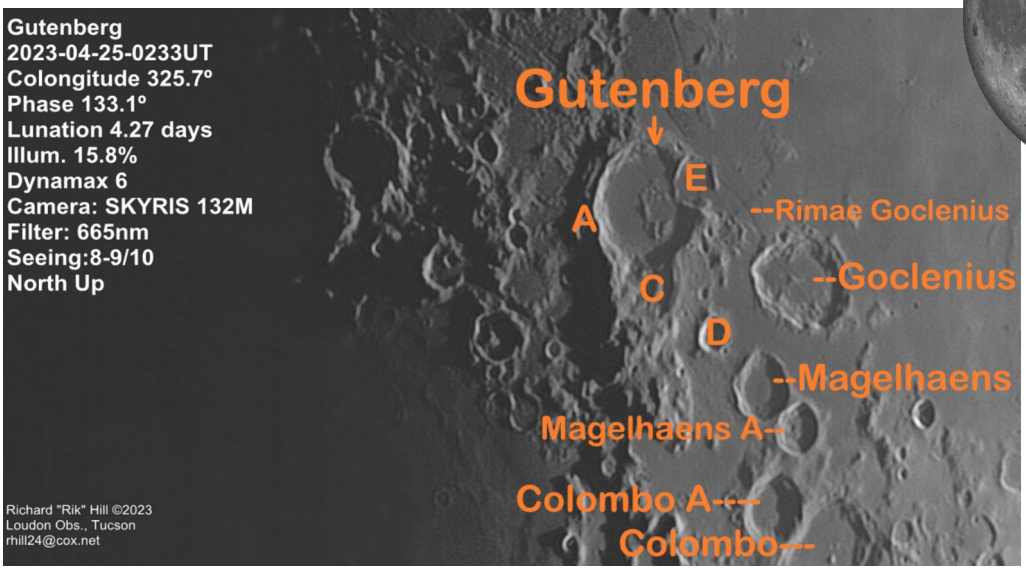


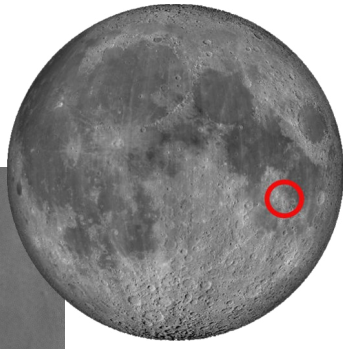
I can't pass over this isthmus of craters between Mare Fecunditatis on the east (right) and Mare Nectaris on the west, when they are visible. The largest crater just above center is Gutenberg (77km diameter) with an equally interesting crater formation to its east (right), Goclenius (56km). Notice that Gutenberg is anything but a round crater but has a large extension to the south where the main crater merged with a more ancient smaller crater filling it with ejecta. Goclenius is likewise likely the merger of two craters with the smaller partially defined by the mountains that pinch in from the sides nearly cutting off the northwest end of this formation.

Running from the south wall of Goclenius up east of Gutenberg and Gutenberg E (42km) on the east wall of Gutenberg, can be seen the main rille of Rimae Goclenius that runs nearly 250km across the surface of the Moon. As the name implies these are multiple rilles and a short piece can indeed be seen east running parallel to the main rima and then going off at an angle to the north. When seen in the LROC QuickMap the graben-like nature of these rimae cab be appreciated.

West of Goclenius is Gutenberg D (20km) a teardrop shaped crater. Then below Goclenius are three rather prominent craters. Moving from Goclenius they are Magelhaens (43km), Magelhaens A (32km) and Columbo A (42km). Columbo, is the 78km diameter crater, cut in half at the bottom of this image. Notice that these craters are also somewhat teardrop shaped with pointed north ends not seen in other craters that are simply foreshortened. There are endless gem like these all over this isthmus and I would encourage you to explore at the next opportunity!

This image was a single AVI done with my Skyris 236M and the Dynamax 6 telescope. The AVI was stacked with AVIStack2 and final processed with GIMP and IrfanView.





Location Maps by Ralph DeCew

History S.I.G.

February 1996

"A Tale of Two Comets" (Part 3) by Douglas E. Goudie Had me going for a moment, I thought that the second comet would finally show up in this part. But, no, still all about Comet Hale-Bopp. I think an appropriate title would be "A tale of Two Comet Hunters". Hold on, a second comet finally does make it in the newsletter: in "Computer Chatter" by Larry Kalinowski, he does mention Comet Hyakutake (C/1995 Y1).

The other main feature in the newsletter is "Masterpieces Messier Missed" by Jeff Bondono where he covers NGC 2158 at 06h07m +24_06'.

February 2006

In this slim volume of our newsletter , Larry Kalinowski's "Astro Chatter" covers the Ryder's-FAAC swap meet in detail. A real "astro" chatter this month, computers only got one paragraph at the end, and that was to announce the next discussion/computer group meeting.

Two Board meetings minutes appear in this issue, raising the question in this editor's mind, "Did we have board meetings prior to each general meeting?" one was January 2, 2006 at Cranbrook, the other, January 19, 2006 at Macomb.

The newsletter ends with NASA Space Place: "Snowstorm on Pluto" by Dr. Tony Phillips.

From the Scanning Room

As each new year begins, I update the list of WAS officers in the WAS Google Drive as part of my housekeeping. Looking through the record, I became aware that I'm embarking on my 9th year as editor of the WASP, not consecutive, there was a two year gap where my son, Brian, took over for me. For those keeping score, that puts me at one more than Frank McCullough (the original editor of the first issues) and sort of tied with Jeff Bondono. I say sort of because one year, Toni Bondono edited the printed version and he did the online part, and, he was part of an editing team one year. There were several instances of editing being a team project, especially back when it was analog- including one Frank was on, so does that mean we give him an asterisk for number of years? Nah. Analog publishing was way harder than what I'm doing now. People ask me what I do for a hobby and I tell them I publish an astronomical club's newsletter. That usually shuts them up.

WASP

Warren Astronomical Society Paper

Volume 28, Number 1 — $1.00 for non-members — Jan., 1996

A TALE OF TWO COMETS

By various authors (identified where known)
Edited for the WASP from electronic media
by Douglas E. Goudie

Finding Comet Hale-Bopp
By Kevin Gill

Where is it Going?

COMPUTER CHATTER

by Larry F. Kalinowski

FROM THE PRESIDENT

ESSAY CONTEST

W.A.S.P. ASTRONOMY ESSAY CONTEST

The W.A.S.P. newsletter

January 2006

The Warren Astronomical Society Paper

P.O. Box 1505
Warren, Michigan 48090-1505
www.warrenastronomicalsociety.org

Volume 38, Number 1 — January 2006

2006 WAS OFFICERS

Astro Chatter

by Larry Kalinowski

Another year, another banquet and another great time was had by all. It was another full house at DeCarlo's in Warren. Our guest speaker, Robert Naeye, from Sky and Telescope magazine, covered the subject of exsoplanets so completely that I felt I now knew all there was about planets around other stars.

The prize table for the raffle was the best so far. There must have been, at least, forty different prizes for distribution like books, three eyepieces, gift certificates, an equatorial mount, a green laser, star wheels and planetarium programs. Everyone received free handouts about The Chandra space probe which included a wall chart and a CD about its expectations and accomplishments, thanks to Pete Rynshovin and NASA. Many thanks go out to those individuals and dealers that contributed to the event.

The following people were given certificates for lecturing during the year; Rothenberg, Berta, Partin, Bailey, D'Onofrio, Workun, Schmalzel, Maxim, Shedlowski, Kalinowski, (for his great Bob Newheart telephone skit about a stargazer that lost the star named after him) Kunz, Forester, Narlock, Odowd, Dillard, Martin, Szumanski, Matti, Uitti and Bertin. Distinguished service awards went to: Phipps and Klaus. The amateur astronomers of the year were: Robacker and Crysler. The E. John Searles award went to Richard Lipke for his generous contributions to our club.

On the night of November 7, 2005, an event occurred on the Moon that every amateur observing it, with a telescope, could have seen. It was a Taurid meteor that struck the surface with an impact of about 70 Kg of TNT, hitting the ground with a speed of about 27km per second. The event was recorded with a video camera by Rob Suggs and Wes Swift, of the

CRANBROOK INSTITUTE OF SCIENCE

Michigan's Museum of Natural History

FEBRUARY 2026

Notable Sky Happenings

Feb. 1 - 7

The Moon will occult (cover) the star Regulus on the 2nd! The star will disappear behind the Moon at 8:46pm EST in the east and reappear at 9:47pm EST (times are for Detroit). The Moon is one day past full and the reflected sunlight will be dazzling.

Feb. 8 - 14

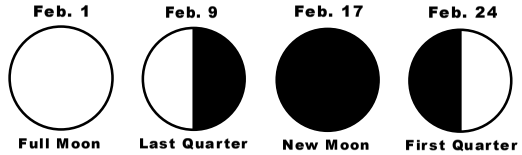
The Moon is at the lower left of Antares on the 11th (SSE predawn).

Feb. 15 - 21

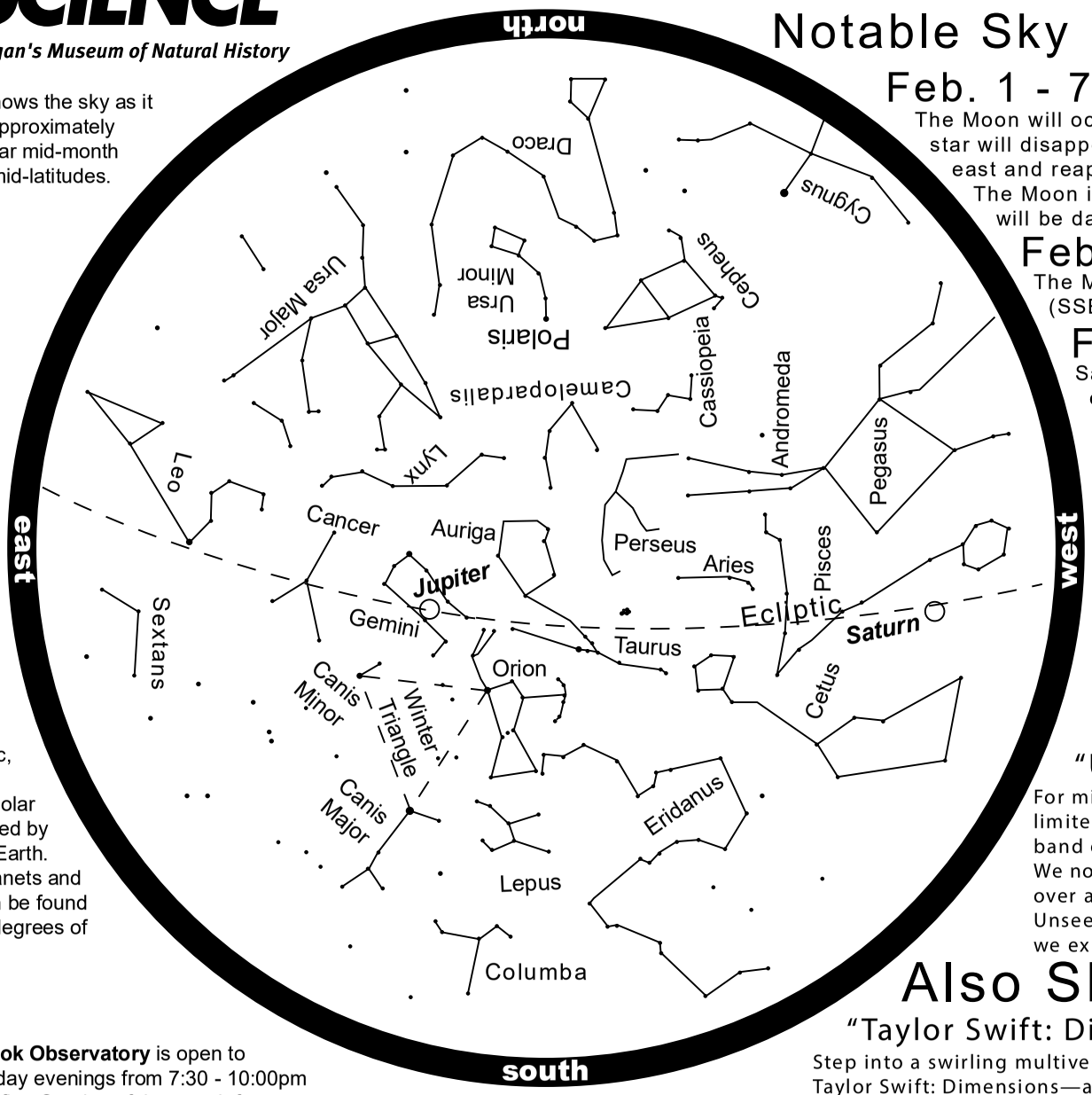
Saturn is below and to the left of the Moon in evening twilight on the 19th. Also on the 19th: Happy Birthday, Copernicus in 1473.

Feb. 22 - 28

The bright "star" below the Moon on the 26th is Jupiter (SE evening). The following evening the Moon is below the star Pollux in Gemini.



This chart shows the sky as it appears at approximately 8pm EST 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 be found within a few degrees of this plane.

Now Showing

"Unseen Universe"

For millions of years our view of the heavens has been limited by our eyes; allowing us to only see a narrow band of electromagnetic radiation we call visible light. We now have the technology to capture the Universe over an amazing width of the spectrum and beyond. Unseen Universe provides a stunning visual treat as we explore the latest splendors of the heavens.

Also Showing

"Taylor Swift: Dimensions"

Step into a swirling multiverse where mathematics and music collide in Taylor Swift: Dimensions—a stunning planetarium experience of breath-taking 360° visuals. From the tender acoustics of "Cardigan" to the electric energy of "Ready For It?" and the fun vibes of "Cruel Summer."

The Cranbrook Observatory is open to the public Friday evenings from 7:30 - 10:00pm EST, and the first Sunday of the month from 1:00 - 4:00pm for solar viewing.

For observatory information visit http://science.cranbrook.edu/explore/observatory

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

NGC 2359 (Thor's Helmet) — Bob Berta

February

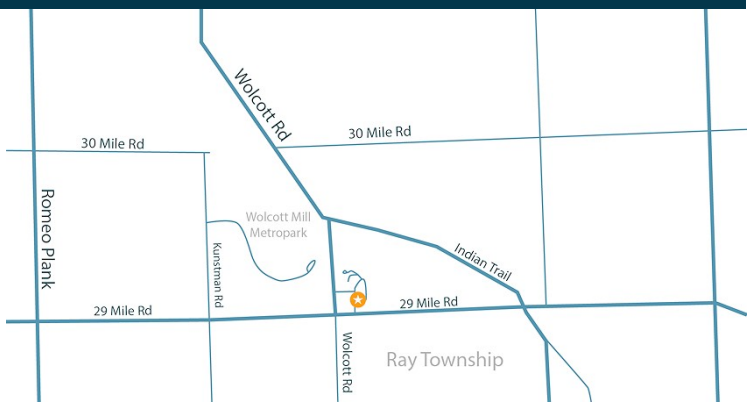
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 FULL MOON	2 Cranbrook Ground Hog Day	3	4	5	6	7
8	9 LAST QUARTER MOON	10 Moon at Apogee: 404577 km	11	12	13	14 Valentine's Day
15	16 President's Day	17 NEW MOON Lunar New Year Annular Solar Eclipse (Antarctica)	18 Ramadan Begins Ash Wednesday	19 Mercury at Greatest Elong: 18.1°E Macomb	20	21
22	23	24 Moon at Perigee: 370132 km FIRST QUARTER MOON	25	26	27	28 Stargate

Stargate Observatory

Monthly Free Astronomy Open House and Star Party
5:30 PM, February, 28
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

January Open House

Due to extreme cold temperatures and weather conditions, the January 24 open house was canceled.

February Open House

The next open house is scheduled to start at 5:30 pm on Saturday, February 28, 2026.

Riyad I. Matti
2025/2026 WAS 2nd VP
Observatory Chairperson

Treasury Report

For January 31, 2026

BOA Checking/cash box

Balance ..... ~$20,171

Income

Memberships 130.00
Calendars 25.00

Expenses

Pizza Party 384.82

Credit Card

Balance $0.00

PayPal

Balance $910.51

Income

Memberships 279.37
Donation 4.61

Expenses

Postage, annual mailing 227.32
Web Hosting 221.87
Credit card reader 30.74

Membership

Members: 43

(as of this posting, checks haven't been recorded)

The WAS welcomes new member, Carter Chaney.

Astronomical Events For February 2026

Add one hour for Daylight Saving Time

Source:

http://astropixels.com/almanac/almanac21/almanac2026est.html

Day	Time (h:m)	Event
1	17:09	FULL MOON
2	21:48	Regulus 0.4°S of Moon
3	14:18	Moon at Descending Node
7	3:26	Spica 1.8°N of Moon
9	7:43	LAST QUARTER MOON
10	11:52	Moon at Apogee: 404577 km
10	22:19	Antares 0.7°N of Moon
17	7:01	NEW MOON
17	7:12	Annular Solar Eclipse; mag=0.963
18	1:19	Moon at Ascending Node
18	18:03	Mercury 0.1°N of Moon: Occn.
19	6:00	Mercury at Perihelion
19	13:00	Mercury at Greatest Elong: 18.1°E
19	18:54	Saturn 4.6°S of Moon
23	21:43	Pleiades 1.2°S of Moon
24	7:28	FIRST QUARTER MOON
24	18:18	Moon at Perigee: 370132 km
27	1:26	Jupiter 4.0°S of Moon
27	16:34	Pollux 3.0°N of Moon

Reminder

It's a new year, don't forget to renew your membership.

Still need a treasurer.

Meeting Minutes

Warren Astronomical Society

Board Meeting

12/22/2025

Officers present: Bob Trembley, Dale Partin, Riyad Matti, Dave Baranski, Jeff Macleod, Vatshalya Dandibhotla, president-elect Diane Hall, 1st vice president-elect Jonathan Kade

Member present: Dale Thieme

Bob Trembley opened the meeting at 7:00pm

Reports

President: Bob Trembley noted that it was the final meeting for the 2025 board, also, that GLAAC was in need of officers as well, if anyone was willing to serve on that- the first meeting would be the second Tuesday in January.

1st VP: Dale Partin reported that he was working with Jonathan Kade on transitioning the position in a flurry of emails.

2nd VP: Riyad Matti reported that while the December open house was clouded out, a couple people showed up anyway and did some binocular observing through breaks in the clouds. The 12-inch Schmidt-Cassegrain the club sold was picked up, clearing more room in the dob shed, but we still have a ways to go. The club does have loaner scopes out at present. He is also looking for a right angle finder for the club Dob.

Treasurer: Dave Baranski reported that the banquet was paid for. Balances are noted in the WASP.

Secretary: Charles Strackbein mentioned the meeting notes are in the WASP, but that he may have to step back from secretary duties.

Outreach: Jeff reported that nothing close in was on the schedule for outreach. Dale Partin mentioned he was giving a talk at the Seven Ponds Club on January 17.

Publications: Vatshalya Dandibhotla reported that the WASP was online, a new calendar is on our website now. Dale Thieme is working on the annual mailer.

Old Business

Bob pointed out that we have a new room for our Macomb meetings next year. Actually moved back to a prior room: E-208.

The need to work out arrangements with the Michigan Mineralogical Society in September was discussed.

The Board then discussed the fact that the by-laws amendment wasn't put to the vote in the December meeting, running the vote at the January Cranbrook meeting was discussed.

The contact page came under discussion, with some updates needed. Also, the possibility of a Google phone number was brought up to handle incoming inquiries. Vatshalya offered to look into it.

New Business

The board discussed the issue of not having a treasurer, yet. Consensus to send out an email to help recruit volunteers. Reminder in WASP, as well.

The annual picnic date came under discussion.

Renewal of IRS e-postcard: Dale Thieme offered to take care of it.

The Award Banquet: Discussion on how it went, any problems? Consensus was the food was great, no issues came up.

Snack discussion ensued. It was generally agreed that snacks are discontinued, unless someone steps forward to start it up again.

Then, there was a general discussion about ways to promote our club and increase membership.

The meeting concluded at 8:11pm

Respectfully submitted,

Dale Thieme (for Charlie Strackbein)

Warren Astronomical Society

Cranbrook General Meeting

1/5/2026

About 7:00pm, Diane Hall welcomed the attendees to our pizza party, Dale Partin picked up the very tasty pizzas, Diane Hall and Tina Wong added soft drinks and salad fixings. Following was an Astro Quiz, run by Jeff MacLeod. We self-graded ourselves and the group of 30 attendees emerged- geniuses. Following the meeting, several members met at the Red Coat, where very little was ordered for dining...

Respectfully submitted,

Dale Thieme (for Charlie Strackbein)

Warren Astronomical Society

Macomb General Meeting

1/5/2026

Macomb College's weather shut-down put the meeting in on-line mode only.

Diane Hall opened the meeting at 7:00pm on Zoom with 26 in attendance.

Diane reminded attendees that membership dues renew in January and encouraged members to participate in GLAAC, as well.

In announcements, Diane pointed out that the picnic date would be moved to July 25 -not August as the calendar says. She recounted her visit with the gang at "Astronomy for Everyone" as a guest where she talked about her visit to Kaali crater in Estonia.

Officer Reports

1st VP: In Jonathan Kade's absence, Diane pointed out that Jonathan was looking for more short presentations and member clubs of GLAAC would probably like to hear from our presenters.

2nd VP: Riyad Matti reported that while the December open house was clouded out, a couple people showed up anyway and did some binocular observing through breaks in the clouds. The next open house will be January 24 at 5:00 pm.

Treasurer: Diane reminded us that the treasurer position is still vacant.

Secretary: In Charlie Strackbein's absence, Diane reported that Charlie tendered his resignation. The position is now vacant.

Outreach: Reporting for Jeff MacLeod, Diane reminded the attendees of the Cranbrook outreach event, Jupiter January was the following night, encouraged attendance with scopes if weather permitted. Also, Dale Partin was presenting at Seven Ponds Astronomy Club Saturday, the 17th.

Publications: Editor Dale Thieme reported that the WASP was online.

Special guest Dave Levy gave a quote from Ralph Waldo Emerson.

Astronomy in the News

Diane said that Rik Hill imaged a supernova the previous week

Artemis is preparing to go to the moon. February 6 is the expected launch date. Fingers crossed.

Ken Bertin reported a discovery of a proto-planet in our solar system.

Special interest Groups

Double Stars: Riyad mentioned a few targets that could be viewed at Stargate during the next open house.

Radio Astronomy: Diane pointed out that Tom Hagen offered to get the radio astronomy SIG going.

Observing Reports

Not much, due to clouds. Diane did relate some of their visit to the observatories in Hawaii, on Mauna Kea.

Main Presentation

Following the break, Jonathan Kade introduced Gordon Hansen, who gave a talk on "Eyepieces: What We Need to Know"

The meeting concluded at 8:35

Respectfully submitted,

Dale Thieme (for Charlie Strackbein)

Filed under Outreach

Where was W.A.S.?

-Tina Wong, Field Reporter

Dr Dale Partin was warmly welcomed by 17 attendees at the meeting of the Seven Ponds Astronomy Club on Saturday, January 17th.

He started the presentation by explaining how protons and neutrons behave and how they collide and combine to create other elements. (For this Field Reporter who became a Finance Major, it has been many years since my last high school Chemistry class and I was extremely grateful for this refresher.)

How does this relate to Astronomy?

The creation of our universe ("The Big Bang Theory") and the collision of stars to create new ones and the death of others.

Dale showed the Periodic Table of the Elements and discussed the role of these elements in the creation of the universe (i.e. the cores of the inner planets of our solar system - Mercury, Venus, Earth, & Mars - consist of iron).

When a star dies (a.k.a. Supernova), it truly dies a beautiful death. Dale explained the star will shed its outer layers to form a nebula and showed pictures. He highlighted The Crab Nebula or Messier Object "M1." Since the process takes billions of years, an Astronomer/Star Gazer can witness this awesome event for their entire lifetime.

At the completion of the star's death, the core will have morphed into a White Dwarf, Neutron Star, or a Black Hole.

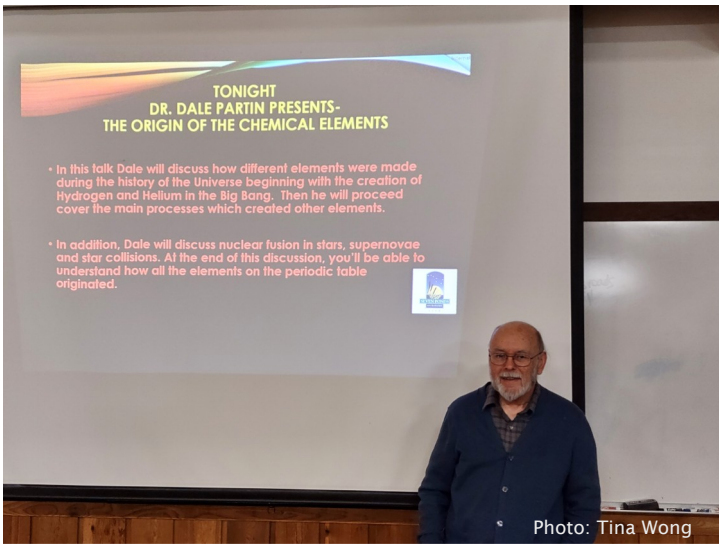


Photo: Tina Wong

The bottom line? These wonderful elements in the Periodic Table make up the composition of everything in our universe - from the Sun, the Earth, water, to our own human bodies!

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: http://www.warrenastro.org/was/newsletter/
Oakland Astronomy Club: http://oaklandastronomy.net/
McMath-Hulbert Astronomy Club http://www.mcmathhulbert.org/solar/newsletter/
Ford Amateur Astronomy Club: http://www.fordastronomyclub.com/starstuff/index.html
University Lowbrow Astronomers: http://www.umich.edu/~lowbrows/reflections/

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