REFLECTIONS / REFRACTIONS

University Lowbrow Astronomers Monthly Newsletter

March, 2025, Vol 49, Issue 3

Inside this issue:

THE DOUBLE CLUSTER (CALDWELL 14)

BY GLENN KAATZ

The Double Cluster in Perseus (also known as Caldwell 14) consists of the open clusters NGC 869 and NGC 884, which are close together and are about 7,500 light years away. Each of the clusters are relatively young (about 14 million years), with many blue-white giant stars and a few red supergiants scattered about.

SPECS

- **William Optics Z61 II 61mm refractor with field flattener**
- **Celestron CGX mount**
- **ASI1600MM Pro imaging camera**
- **ASI120 Mini guide camera**
- **ZWO off-axis guider**
- **AsiAIR Plus**
- **Baader CMOS-optimized LRGB filters' 1.25 inch**
- **QHYCCD Polemaster for polar alignment**
- **ZWO 8-position electronic filter wheel**
- **120 second exposures, 30 frames each of L, R, and G, and 26 of B. 3hours 50 min integration time**
- **Processing with Pixinsight, Photoshop, RC Astro Noise, Star, and BlurXterminators**

YEAR IN REVIEW

BY CHARLIE NIELSEN

The year 2024 was very active for our club, and extremely active with astronomical events. Some of those events were known to be coming, and some were surprises. I will mention them in the sections for the months in which they occurred.

January - As would typically be the case for January, we had no activities other than our club meeting. We had a great presentation by Melissa Kaelin. She works for the U of M and is an aurora chasing expert. Her presentation was highly informative and gave us much insight on which forecasts to trust, and when. We all learned a lot. She has published a book titled "Below the 45th Parallel", and I think we bought all the copies she brought with her. Attendance: In-Person was 23, Zoom was 20. Little did we know at the time how timely this presentation would be.

February - We had a great presentation at our club meeting about how solar eclipses cause atmospheric gravity waves. Our speaker, Rosie Freind, is a recent Eastern Michigan University Physics graduate and she is working on a balloon project to measure conditions during a solar eclipse that generate gravity waves. Rosie and her team will be doing a launch in Ohio during the April 8th eclipse. We had 24 attendees in-person, and 11 via Zoom.

We had our first outreach event on February 7, which is earlier than typical. We were invited to Glencairn Elementary School in East Lansing. The club members helping at the event were: Wesley Vincent, Jim Forrester, Dave Snyder, Don Fohey, Jeff Kopmanis, and Adrian Bradley. Representing the Solar Sisters (a women's astrophotography group) were Amy, Ginia, and Rebekah. Astronomy targets were shown through several telescopes, including one doing imaging. Telescopes were explained and astrophotography images shown. Also, a visual headset showing what the night sky would like while looking around you. An estimated 200 attendees showed up.

March - We had another fine presentation by club member and frequent speaker for our club, Jim Shedlowski, at our monthly meeting. This time Jim spoke about how our theories about the nature of the universe and how it began, have evolved over time, and eventually led to the discovery of two major components that we do not understand … dark matter and dark energy. We had 21 in-person attendees and 11 via Zoom.

April - This month's meeting featured our Online Coordinator, Jeff Kopmanis, who spoke to us about getting into astrophotography without spending a lot of money. We also had officer elections, with a change in VPs to Ken Cook and Don Fohey, with thanks going out to VPs Jim Forrester, Dave Snyder, and Adrian Bradley for their past service. We had 20 attendees in-person, and 10 via Zoom.

On the 13th, we had our first Open House of the year and what a success! We had the highest number of club members coming to help in years. The guests started showing up early and they kept coming… to an estimated total of 75. The sky was clear with a bit of high cloudiness and haze arriving late. The Moon seemed amazingly bright for being less than first quarter. Club members making it happen were Don Fohey (OHC), David Cooke, Dorian Jurgle, Jack Sprague, Alex Swartzinski, Dale Wakevarian, Wesley Vincent, Charlie Nielsen, Jack Brisbin, Fred Schebor, John Mogerman, Mani Yellayi, and Branden Roche.
The event that we will remember the most, and one of the ones that made this year so special, was the total eclipse of the Sun on April 8. We had people strewn from Mexico to Pennsylvania all along the eclipse path, and almost all of us had clear enough skies to witness it. This eclipse also occurred near solar maximum, so there were prominences barely naked eye visible along the limb. This was my first total solar eclipse and a bucket list item. We have all seen many pictures, but I can now testify that pictures do not do it justice. Seeing sunrise/sunset all along the horizon, the shadow racing at you, the temperature drop, streetlights coming on, and Jupiter and Venus showing on both side of the Sun … so much input.

May - Our scheduled meeting speaker had to postpone, so we did a showing of images taken of the aurora that occurred the previous Friday night. This was a collection of images from many club members, and a couple of non-members, from various locations around the state and the country. We had 29 in-person attendees, and 9 via Zoom. The aurora that occurred on May 10th was not expected, at least not like what we got treated to. There was a prediction for possible activity, but you know how these things typically go, and usually it is disappoint-

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-ing. Not this time! Just as it got dark the sky exploded with aurora of all colors. It was so intense I could see it from inside my car looking over the roofs of lit up houses! The purple and red were so intense it was almost unreal. In images we even picked up the rare yellow. We had some cloudiness and Moon to deal with, but the aurora just shined right through it all. It was a magical couple of hours.

We had an Open House scheduled for May 4th. Don Fohey was OHC again and had to cancel this one due to bad weather.

June - This month we tried something different. We had 7 club members show their astrophotography, and they had 10 minutes each to do it. We had a range of "doing it on the cheap" to "wow, I spent a lot of money". This made it even more interesting. Participants were Ed Hernandez, Jeff Kopmanis, Dmitri Tsahelnik, Marcus Clarke, Ken Leitch, Brian Ottum, and Glenn Kaatz. Ed had a last-minute conflict arise, so Charlie ran his slides for him. The audience enjoyed the show very much, and we learned some things along the way. We had 28 in-person attendees, and 7 via Zoom.

We had three Open Houses scheduled but the weather erased the first two, and technical issues at the observatory took out the third. However, on Friday, June 14th we held an event at the Ann Arbor District Library called “On the Moon Again 2024”. This event was organized by Brian Ottum and Amy Cantu and held on the SW corner of the building, on the sidewalk. Also bringing viewing equipment, and/or helping with outreach were Jim Forrester, Adrian Bradley, Avital Keely, and Charlie Nielsen. We had clear skies and very pleasant weather for the event and the people that stopped on their journey to take a look were very pleased. Even people in cars that were driving by were asking questions. We had an estimated 49 “guests”.

July - This was our annual trip to the Sherzer Observatory at Eastern Michigan University. As always, Nobert Vance, who runs the observatory and planetarium, teaches, and much more, hosted us and showed us the latest astronomy video they have been showing. Norb also led the way during a presentation by him, Brian Ottum, and Professor Pat Seitzer. This was about a trip that Brian and Norb made to Chile to work on a U of M telescope under the direction of Pat, who remained here in Ann Arbor. They showed us some amazing images and video. Prior to that we had a fine presentation by recent EMU graduate, Miles Mercier. Miles talked about a radio telescope he built while an EMU Astronomy student, but independent of his college studies. His project worked very well. After some brief officer reports we walked over to the observatory building to use some various telescopes. We had clear skies, though a Full Moon to deal with. As tradition has it, we stuffed ourselves with pizza, cookies and various soft drinks before the meeting officially started. It was a very full and fun evening. We had 27 in-person attendees, and 4 via Zoom.

On Thursday, July 11, we held our first 2024 Michigan Math and Science Scholars event. We had about 16 students arrive on this, the rain date for the event. It did not rain this time, but the clouds were a problem. Despite this, some views of the Moon, some brighter DSOs and double stars were occasionally viewable. The MMSS group enjoyed taking Moon images with their cell phones. Club members helping were Jack Brisbin, Jim Forrester, Don Fohey, Adrian Bradley, and Shannon Murphy.

We held one Open House in July (the first one was cancelled) and Adrian Bradley was OHC. Jack Brisbin operated the McMath telescope. Also coming out to help with our guests were Jim Forrester, Fred Schebor, Jack Sprague, Dave Cooke, and Matthew and Steve West. As the sun set and stars began to come out, we heard and saw the flashes from at least 3 fireworks shows in neighboring towns. But around 11:30 pm when it all died down, we could focus on our astronomy. The skies were clear, no clouds in sight. The humidity made being out at the mountain wonderfully comfortable. The dew point, however, did cause some problems for imagers. We had 30 attendees.

August - For the first time in many years we had a club potluck picnic. We met at the home of Kathy and Kurt Hillig, who graciously hosted us. We had 16 club or about-to-be club members there, both very veteran, and brand new. The food was excellent and of course we ate heavily. The weather forecast indicated we would have nearly zero chance of clear skies, but we did. Despite the high humidity, killer mosquitoes, and very bright Moon, we set up two telescopes and viewed a few Messier objects and Alberio. A fun time was had by all!

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YEAR IN REVIEW continues ...

We held an Open House on the third, with Don Fohey again as OHC. He counted 70 guests, and we had 7 Lowbrows working the event. Jack and Dmitri were in the observatory. Jim and Barry set up telescopes by the observatory. and Don set up his 10" on the upper field, and some folks returning to their cars about midnight stopped for a look at M31, M3, NGC6210 and M27. Mani helped with parking and set up his SeeStar. New member Jacoby, at his first ever Lowbrow event, talked with the arrivals while we were managing parking and he distributed the light sticks along the route to the observatory. Adrian set up a photography rig. About 1 AM Don made it down to the observatory. Barry showed him a view of the double double that was well separated, and Jim had a remarkable image of Saturn with nearly edge on rings. Saturn looked like it had a line through it. Jim said there were a lot of folks milling around the observatory area. Barry noticed there were many kids.

On the 31st we had the weather cooperate for another Open House, this time with Jim Forrester serving as OHC. The club members helping were Jack Brisbin, Jim Forrester, Jeff Kopmanis, Ken Cook, Adrian Bradley, David Cooke, and his wife Chandra, Matt West, and his father Steve. We also had someone who had a homework assignment to sketch a Messier object. Hopefully, that happened without much of a problem. As always, we tend to look at bright objects: M13, M31, M57. When Saturn appeared, all scopes pointed there and provided great views of this planet whose rings are very close to edge on - you can barely tell a gap in the rings where it's just slightly tilted. Overall, it was a good night to be outside, with not much interaction from the bugs and just a few passing clouds. We had 13 visitors.

August 24th found us making a return to Owosso Airport. This was our second trip to Owosso Airport to help them celebrate a fly-in camping weekend for pilots and their families. The weather forecast was favorable, with clear skies indicated north of a line just south of the venue. It certainly looked that way before dark. But as it was getting dark, and the stars were coming out ... they did not. The only thing we could see in the south was Antares, and that was not easy at times. We saw the Summer Triangle overhead and over half of Cygnus. The Big Dipper was difficult. Despite this, we did manage to show M13, M31, Alberio, and maybe a couple other things, before we targeted Saturn. Saturn was well above the horizon before we could spot it, and never really became bright. We did get some good telescopic views, however. Despite our challenges, the campers and airport staff were very pleased, as they were last year. The food was good, and we had a fun time. Club members helping were myself, Jim Forrester, Jeff Kopmanis, Adrian Bradley, plus Mani and his son Sailesh. We had about 20 people spend time together with us and see what we could show them.

September - Our meeting this month did not happen. We cancelled due to a conflict with Astronomy At The Beach. I heard Dave Snyder jokingly say that this year maybe we should have named it Astronomy Not At The Beach. That is because this year we moved to Maybury State Park due to road construction at Island Lake. The observation field was very open with decent horizons. The weather was not good, but we had enough clearing for a period to show Saturn and a few other objects. Despite the new temporary location and bad weather forecast, we had an estimated 500 visitors. We typically have more guests on Saturday night versus Friday night, and this was no exception. The weather was equally bad, but we attracted an estimated 2000 guests.

On the seventh we held an Open House. We had clear skies but cold temperatures. Many late summer and early fall objects were available to show the public. We had a great turnout of club members, but only 16 guests. Club members making the trip were Jim Forrester (OHC), Ken Cook (Greeter), Ed Hernandez, Barry Wissman, Adrian Bradley, David Cooke and his daughter Rebecca, Matt West and his father Steven, Brandon Roche, Awni Hafedh (visited), Tad Skierkowski (visited), and in the observatory, Jack Brisbin and Charlie Nielsen. The 28th was another scheduled Open House, with Don Fohey as OHC, but he had to cancel due to the weather.

October - For our meeting this month, we had presentations and images from eclipse trips taken by several club members. They were from several locations along the April 8 Total Eclipse path of totality. In Mexico were Kathy and Kurt Hillig, in Texas was Ed Hernandez, in Ohio Adrian Bradley, and from Pennsylvania, Doug Nelle. Each had their unique way of conveying their experience, through pictures and words, and it covered everything from very clear views, to somewhat cloudy, to completely cloudy. In every case the presenters had a wonderful experience! We had 27 in-person attendees, and 7 via Zoom.

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YEAR IN REVIEW continues ...

On October 4, we found ourselves at Tecumseh Parks and Recreation. After a couple of years of having this event cancelled due to the weather, we had excellent weather this time! The guest count was 13. The Moonless sky was about as good as it gets and was surprisingly dark considering the proximity to downtown Tecumseh. We got started just as it was getting dark, and the attendees all arrived just before then and around the same time. We were able to view a variety of objects, starting with Saturn and then moving on to the typical variety available at this time of year. We answered a lot of questions and gave some of them a lot to ponder. The attendees, mostly adults but a few children and younger people, seemed to enjoy the event very much. We started packing up at 10 PM. Club members helping were Charlie Nielsen, Jeff Kopmanis, Brian Ottum, and new member (or soon to be), Joe Frank. This was Joe's first club outreach event, and he was impressed as well as being a great contributor. Unfortunately, early this year (2025) we heard that Joe had passed away. I was looking forward to doing more events with him.

We also had a return trip to Westland Library scheduled, but clouds and rain had other ideas.

The biggest event in the sky this month was Comet C2023 A3 Tsuchinshan ATLAS. It was touted as "the comet of the century" but failed to come close to that. Nonetheless it made for some fun nights of getting out to see if we could spot it naked eye. We could, but barely. Telescopically and photographically, it was spectacular. It was not long after I had purchased my Seestar, so I was incredibly pleased! I believe it was also early this month that we had a return aurora show, but not nearly as good as the one in May.

November - Our only event this month was our monthly meeting. Our guest speaker was Professor Dragan Huterer from the U of M Physics Department. He is one of the U of M Professors that brings us one of the MMSS groups. His presentation was very detailed and about how dark energy is speeding up the expansion of the universe. He covered the things we have figured out since the discovery of the accelerating expansion, and he especially described the main things that we have yet to figure out, and why it is so difficult to do so. We had 25 in-person attendees and 7 via Zoom.

December - Club member Gary Nichols did a great presentation about several of the new Smart Telescopes. He has owned several of them from several brands over the last few years. He talked about how he was impressed and frustrated by all of them but has enjoyed the journey. We had 22 in-person attendees and 9 via Zoom.

2024 gave us a total solar eclipse, at least two aurora shows, one of which was spectacular, and a decent comet. Plus, I think I am forgetting something. Maybe a conjunction or occultation? Our success rate for Open Houses and outreach events was rather good too. Not bad at all!

Our membership count at the end of the year was 212. We are still growing! Last year in this article I reported that our treasury was healthy and maybe we should spend some money on something. We did just that with the purchase of a ZWO Seestar S50 smart telescope. It will be available for loans to paid-up club members in 2025. ❑

UPCOMING SPEAKER SCHEDULE

March 21: Dr. Richard Goodrich

Topic: Fear and Loathing in the Heavens

April 18: Professor Gregory Tarle

Topic: Cosmologically Coupled Black Holes

May 16: Jim Shedlowski

Topic: The Many Dimensions of Russell Porter

June 20: Adam Kall (Kall-Morris, Inc.)

Topic: (Retreival and effects of space debris)

July 18: Kristina Collins

Topic: Citizen Science Project to Monitor the Ionosphere

August 15, TBA

MY LOGGING SYSTEM

BY JOHN MANNEY

A record-keeping system helps to preserve the memory of the ups and downs of stargazing. By looking at the records, we can evaluate different observing sites, equipment, and techniques. Besides, it is enjoyable to re-live some of the experiences, like a time of ultra-good seeing or a night where Jupiter and Saturn were in the same field of view … or the session that ended early for lack of a jacket.

I thought it would be helpful to describe my system so that you can pick up any useful ideas.

Using Microsoft Excel Spreadsheets

My logging system has been evolving as long as I have been observing. I gravitated to Microsoft Excel because I was already familiar with it.

I like Excel because it has a comfortable user interface and gives you the freedom to organize your data any way you like. It allows you to find records and sort them easily.

Starting to use Excel is a bit like moving to a new country: The roads and signs are unfamiliar. You would probably start by learning how to get to work. Once you master that, you could learn other routes. You would learn your way a step at a time.

So, try not to be distracted by the many Excel functions. There will be a few that you will use a lot, and many that you will never use.

The spreadsheet format is very flexible. If you want to create a new category, like "Objects for Kids," it takes a few seconds to add a column and give it a name. For planning a new observing night, the columns can be moved, so that the useful information is easily visible.

The ***sort*** features will help you find specific records.

Here is a link to a sample observation workbook: https://realsimpleastronomy.org/2025/03/03/sample-observation-logbook/

If you don't have Microsoft Excel, Apache OpenOffice or Google Sheets can open this file. Unfortunately, many rogue entities offer "free" apps, which function poorly.

The Worksheets

An Excel file is called a workbook. It consists of one or more worksheets identified by tabs. The worksheets are independent of each other (at the beginner level).

The following worksheets are in the sample workbook:
Logbook: Contains all of the records. It has three types of records:

- *Observations*: Circumstances and notes for each observation.
- *Descriptions*: Background information for some observed or unobserved objects.
- *Sessions*: Record of Date, Location, and summary of each session.

Constellations: for reference.
Data Explanations: May be helpful for understanding my terminology.
How To: Explanation of some Excel operations.

Using Excel

I would love to do a tutorial, but other people have done a much better job. Why duplicate the effort?

A nice beginner tutorial for Excel: https://edu.gcfglobal.org/en/excelxp/identifying-basic-parts-of-the-excel-window/1/

Another approach to learning Excel is to simply start using it and using online resources to answer your questions.

I have listed a few Excel operations in the *How-To* worksheet.

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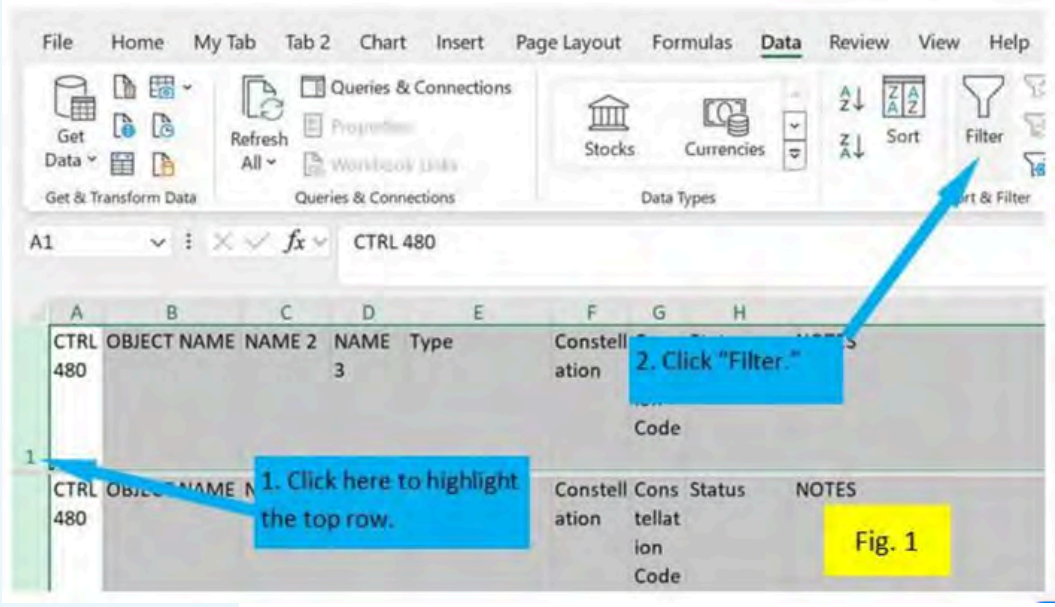
A Sun Dog. Photo by Doug Scobel

MY LOGGING SYSTEM continues, ...

Easy Sorting

This Excel feature is very useful, and not widely known:

Here is an exercise in sorting:
See figure (at right): Highlight the first row of the worksheet. Click on "Data" on the top toolbar. Go to the section called "Sort & Filter." Click on the icon called "Filter." Note that each cell in the first row now includes a small arrowhead. When you click on the arrowhead, several sorting options appear. The first two options allow the sheet to be listed in alphabetical or reverse-alphabetical order. The bottom section contains a label for each entry in the column with a checkbox. If the box is checked, all rows with that name are displayed.



Here is an exercise, using the Logbook worksheet:

Let's say you want to list all of your favorite open clusters grouped by constellation.

- 1. Click on the arrowhead in the "Type" column.
- 2. Click the "Select All" box. Note that all of the boxes are now de-selected
- 3. Scroll down to the "Open Cluster" label and click on its box, followed by "OK."
- 4. The "Type" column will display all of the Open Cluster entries. Note that the arrowhead symbol has been replaced with a funnel-shaped symbol. This is a reminder that only the selected entries are displayed.
- 5. In the "Status" Column, follow a similar process to show only the lines with the label "Favorites".
- 6. In the "Constellation" column, click the arrowhead box and click "Sort A-Z".

During the Observing Session

On paper, I jot down the items that pertain to the session. These include weather, sky transparency, seeing, start time, end time. If I end the session early, I will include the reason. I also make notes of problems and things to fix later on. For a public event, I try to simply list the objects viewed, rather than make detailed log entries. This information will be transcribed onto the Logbook worksheet.
I use the logging feature of SkySafari to make temporary notes. I select the object, followed by "Create New Observation". SkySafari stamps the entry with the current date and time (To ensure a correct time stamp, press the "Now" button on the main screen).

I indicate which eyepiece was used, and a three-digit rating for the observation:

- First digit: Sky condition, a combination of light pollution, darkness, transparency and seeing. "5" indicates excellent sky condition; "1" indicates near-impossible viewing.
- Second digit: Visibility of the object. "5" indicates no trouble in locating the object. "1" indicates the limit of visibility. "0" indicates inability to see the object, despite accurate aim of the telescope. If I am not sure of the scope aim, I write "couldn't find".
- Third digit: Subjective assessment of the visual appeal of the object. "5" indicates a very pleasing object. Lower numbers indicate less enjoyable objects.

Next, I enter my comments.

Later, I transcribe my SkySafari notes to the Logbook worksheet.

Entering the Observations

I begin by sorting the data in the Logbook worksheet by object name.

I search for earlier observations by entering the Object Name into the Search function (Control F). I then review them.

I insert a blank row and enter the new observation data. ❑

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MY LOGGING SYSTEM continues, ...

I review what I have learned by this observation:

- Do I want to observe this object again?
- Can I improve my technique?
- Do I want to change the Status to "Favorites" or "Showpieces"?

After I enter all of the observations, I sort the data by Date, newest to oldest. I check for omissions by comparing the worksheet entries with the SkySafari list (click on "Observe", "Observations" in SkySafari).

Protecting the Data

Keep Some of the Old Workbooks

I have made blunders which have caused loss of information. On one occasion, I deleted data which should have been kept. Another time, several observation notes were matched with the wrong object names.

To repair mistakes, it can be helpful to have the older records. After a major revision, I like to use the "Save As" icon to save the worksheet under a new name. (If I close by hitting the "Save" icon, the earlier version is overwritten).

The *Last Row Number*

This column helps me to account for each line in the Logbook worksheet. The words "*Last Row Number*" are followed by a number. This is the row number for the last entry. This number should be the previous number, adjusted for entries added or deleted. For example, if the number is 420, and I add 12 new observations, the new number will be 432.

Your Logging System

My logging system doesn't need to be your logging system. Everyone has different interests and needs. So, you can modify the sample workbook or start with a blank workbook.

Please let me know if things are unclear. I will try to explain things better.

I hope that this article will help you to remember your times under the stars!

UPCOMING EVENTS

MARCH 11, 7 PM
You're invited to Dean Regas' next class
Topic: Astrology (Not Astronomy)
With Special Guest David Levy

If you want to really offend an Astronomer, call them an ASTROLOGER! What's the difference? Why such animosity? "We have a history - a long history," explains astronomer Dean Regas. Learn the difference in this fast, fun, class for everyone under the stars. Astronomer David Levy also stops by to bring his own take on what's coming up in the sky.

Link: https://us06web.zoom.us/j/83592464869?pwd=lMU93wG0ooRRzsycQeKCkXhd55osRE.1

Pass:500332

I'd love for you to subscribe to future classes. Group rates start at $25/class and your whole group gets early access and a shout out to all of the participants. Plus it helps me get more special guests like David Levy! I have the dates and topics for the Apr-Jun classes https://astrodean.com/shop/p/3classes2025

Let me know if you have any questions about subscribing but in the meantime, I hope to see you all at Astrology on March 11.

Keep Looking Up!
Dean ❑

MARCH 13 - 14 LUNAR ECLIPSE

If it's clear March 13-14, Norb Vance invites members to EMU's Sherzer Observatory, 12:30 am - 3 am, to watch the total lunar eclipse. The deck is a nice place to see the eclipse since one can warm up between look-sees, and we'll have several scopes aimed at the moon throughout. ❑

PHOTOS FROM GLENCAIRN ELEMENTARY SCHOOL SCIENCE NIGHT

Special Thanks to all the **Lowbrows** who came out to help: Adrian, Amy, Bob, Charlie, Dave, Don, Ginia, Jack, Jeff, Jim. and a couple of Solar Sisters

Photos by Jeff Kopmanis, Amy Cantu, and Jack Brisbin.

University Lowbrow Astronomers - Meeting Minutes February 21, 2025 7:30pm

Our meeting at the Detroit Observatory was called to order by Charlie Nielsen at 7:35 PM.

Jeff MacLeod, former president of the Warren Astronomical Society, got into character as a NASA engineer in 1962, giving an excellent presentation working through how we should go to the moon in "this" decade? The USA had completed two suborbital flights, and just three orbits of the earth, with many failed launches, so any plan sounds completely crazy given the scope. Multiple options are considered, but physics is physics, and the Saturn V with a lunar orbit rendezvous is the only vehicle system we could build and launch within the given time frame.

Our business meeting began at 8:30 PM

Charlie mentioned that Glencairn elementary school in East Lansing asked the lowbrows to be present for their science night on Wednesday, February 26, 2025. Travel arrangements were discussed.

Michigan Math and Science Students are looking to visit us July 21nd, rain date the 23rd. Look for emails as we get closer to the event.

Students Astronomical Society (SAS) is looking to have an event also, but no definite date was set.

The Tecumseh Parks and Rec department would like us to visit their location on April 27th 7:30 to 11:00 PM. Charlie mentioned the location is pretty good for public astronomy.

NASA Night Sky Network (NSN) sent some recognition pins to be given to members who engage with the public during our events. Charlie and the officers will decide how to award them.

VP Ken Cook has sent an email to Dr Renno of U of M who is working on the samples returned from asteroid Bennu. Hopefully we can have them give a talk about their work.

VP Don Fohey had no report.

Observatory Director Jack Brisbin reported that the current plans are to launch over 40,000 new communications satellites. Astronomers will need new image processing techniques to deal with this much noise in our images.

Jack will have half of a table at the FAAC Astronomy conference and swap meet, April 5th 9AM to 3PM. He will be selling items from the observatory that have been unused for a long time.

He reported that the second heater in the observatory is performing well and kept the

temperature above the dew point during January and the beginning of February.
Jack asked if the club might be interested in reserving a table at the FAAC conference and swap in 2026? He also asked if there was any interest in the club's second 6 inch Cave telescope.

Jeff Kopmanis continues to work on our website, with updates to the young astronomers pages.

VP Brian Ottum agreed to write a review of the club SeeStar telescope for the newsletter.

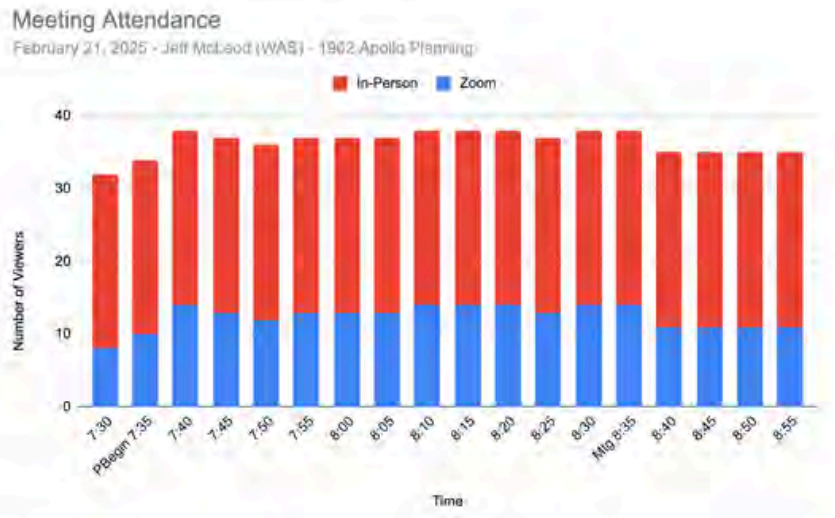
Newsletter Editor Amy Cantu had no report. She is the manager of the club SeeStar telescope. If you are interested in borrowing it please contact Amy or the officers

Treasurer Doug Scobel reported via email that:

We have 213 memberships.
He paid our usual monthly bill to AT&T for our Open House "hotline".
He purchased a $50.00 Amazon gift card for January speaker David Gerdes.
He reimbursed Jack Brisbin $18.08 for two heat lamp bulbs for the observatory.

At 8:58 PM Ken Cook made, and Jack Brisbin supported a motion to adjourn.

Minutes respectfully submitted,
Ken Cook, VP

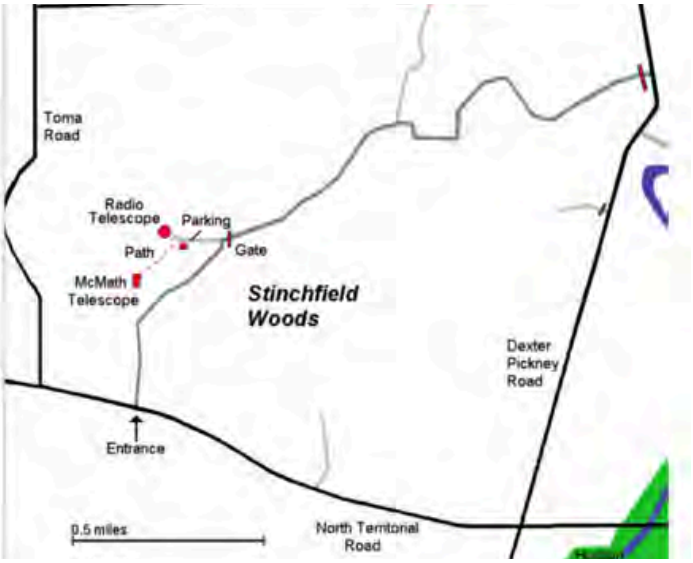


Max	**14**	**24**
Percent	36.84%	63.16%
Total	38	

PLACES & TIMES

Monthly meetings of the University Lowbrow Astronomers are held on the third Friday of each month at 7:30 p.m. The location is usually the Judy & Stanley Frankel Detroit Observatory. The Observatory is located at 1398 E. Ann St., Ann Arbor. The Ann Street Parking Structure (M86), the Catherine Street Structure (M5), the Glen Street Structure (M61), and the School of Public Health II Lot are usually open after 6:00 p.m. Mon-Fri. The M86 structure is closest to the Detroit Observatory.

Peach Mountain Observatory is the home of the University of Michigan's 25-meter radio telescope and McMath 24" telescope, which is maintained and operated by the Lowbrows. The entrance is addressed at 10280 North Territorial Road, Dexter MI, which is 1.1 miles west of Dexter-Pinckney Rd. A maize and blue sign marks the gate. Follow the gravel road to the top of the hill to a parking area south of the radiotelescope, then walk about 100 yards along the path west of the fence to reach the McMath Observatory.



PUBLIC OPEN HOUSE / STAR PARTIES

Public Open Houses / Star Parties are generally held on the Saturdays before and after the New Moon at the Peach Mt. Observatory but are usually canceled if the forecast is for clouds or temperatures below 10 degrees F. For the most up-to-date info on the Open House / Star Party status call: (734) 975-3248 after 4 pm. Many members bring their telescope to share with the public and visitors are welcome to do the same. Mosquitoes can be numerous, so be prepared with bug repellent. Evenings can be cold so dress accordingly.

MEMBERSHIP

Annual dues are $30 for individuals and families, or $20 for full time students and seniors age 55+. If you live outside of Michigan's Lower Peninsula then dues are just $5.00. Membership lets you access our monthly newsletter online and use the 24" McMath telescope (after some training). Dues can be paid by PayPal or by mailing a check. For details about joining the Lowbrows, contact the club treasurer at: lowbrowdoug@gmail.com

Newsletter Contributions:
Members and non-members are encouraged to write about any astronomy-related topic. Contact the Newsletter Editor: Amy Cantu cantu.amy@gmail.com to discuss format. Announcements, article, and images are due by the 1st day of the month as publication is the 7th.

Telephone Numbers:

President:	Charlie Nielsen (734) 747-6585
Vice President:	Don Fohey
	Brian Ottum
	Ken Cooke
	Dmitri Tsahelnik
Treasurer:	Doug Scobel (734) 277-7908
Observatory Director:	Jack Brisbin
Newsletter Editor:	Amy Cantu
Key-holders:	Jim Forrester
	Jack Brisbin
	Charlie Nielsen
Webmaster:	Krishna Rao
Online Coordinator	Jeff Kopmanis

A NOTE ON KEYS: The Club currently has three keys to the Observatory and the North Territorial Road gate to Peach Mountain. University policy limits possession of keys to those whom they are issued. If you desire access to the property at an unscheduled time, contact one of the key-holders. Lowbrow policy is to provide as much member access as possible.

Lowbrow's Home Page
http://www.umich.edu/~lowbrows/

Email to all members
Lowbrow-members@umich.edu