

# REFLECTIONS / REFRACTIONS

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University Lowbrow Astronomers Monthly Newsletter

July 2023, Vol 47, Issue 7

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## NGC 4565

BY GLENN W. KAATZ

It took me about three weeks to finish my latest project, NGC4565 (Needle Galaxy in Come Berenices). Canadian wildfire smoke wiped out several clear nights but I was finally able to piece together enough good nights to finish. Image particulars: Bortle 7 sky, +/- smoke on some nights

Celestron Edge HD 8-inch SCT; Celestron CGX mount; Celestron 0.7X focal reducer; Celestron OAG; ASIAIR Plus; QHYCCD Polemaster; ASI174mm guide camera; ASI1600MM main camera, cooled to -15C; ASI EAF; ASI EFW; Optolong LPro; ZWO Blue, Green, and Red filters (1.25 inch); Astrodon HA 5 nm filter (1.25 inch).

80 x 3 min LPRO, 52 x 3 min Red, 51 x 3 min Green, 51 x 3 min Blue, 24 x 5 min Ha. Total integration time 13.7 hrs/

Processing: Pixinsight, Russell Croman Star, Noise, and BlurXterminator, Photoshop, Topaz Denoise. ■



# JULY AT PEACH MOUNTAIN

BY JIM FORRESTER

Open Houses at Peach Mountain will take place on July 15th and July 22nd. Open House Coordinators and McMath Operators are needed. Member nights will begin Sunday, July 9, and end Thursday, July 20. Friday the 21st is the Monthly Club Meeting at the Eastern Michigan Planetarium with observing from the Sherzer Observatory on the Ypsilanti campus following. [Map to Sherzer , p. 9.]

Member nights will be announced with as much notice as possible, and confirmed by 4:00 PM the day of.

This year, wildfire smoke on some nights has reduced the quality of observing. Programs will be canceled if the high-altitude smoke forecast warrants. At times, the smoke has drifted to ground level and produced unhealthy conditions. We don't have a firm policy, but being outdoors when the PM2.5 level is above 100 micrograms/cubic meter of air is unhealthy for the old, the very young, and people with certain health problems.

If you wish to learn to operate the club's 17.5-inch telescope, contact me ([jim\\_forrester@hotmail.com](mailto:jim_forrester@hotmail.com)). This can be done either during an Open House or on a member night. Just let me know in advance. If you desire training on the McMath Telescope, contact our Observatory Director, Jack Brisbin ([puffysky@aol.com](mailto:puffysky@aol.com)).

Our June Open Houses were successful as, amazingly, both took place! We had at least 50 guests over the two nights, including a group of Cub Scouts and their parents. While the June 17 event was a bit light on Lowbrows, our "Back to the Moon" observing night on the 24th was well-staffed.

**But more Lowbrows are always needed.** If you have any questions, contact me by either email or phone (734-663-1638). ■



## Photos from June 24 Open House

**Top:** Attendees wait in line for a view through the McMath. **Middle:** Brian Ottum projects the moon onto the wall of McMath Observatory. **Bottom:** Don Fohey makes a point. Photos by Amy Cantu

**At Left:** The field at Peach Mountain. Photo by Bill Fohey



## Orion 2x54 Ultra-Wide Field Binoculars

BY DAVID COOKE

My wife got me a pair of these binoculars as a holiday gift two Decembers ago, and I recently told her it's one of the most useful gifts she's given me since we've been together.

These binoculars are relatively small -- roughly the size and weight of a typical smartphone -- but about two inches thick. The lenses are glass and the focus can be adjusted individually if your eyes focus differently or if you prefer not to use glasses. Like virtually all binoculars, you can also adjust the interpupillary distance. They also come with a nice fabric case.

There are many compact binoculars on the market. What makes this one stand out is that the magnification is only 2X.

Why would you want such a thing?

These binoculars definitely will not allow you to see Saturn's rings or complete a Messier marathon. What they will do is make dim stars suddenly appear in severely light-polluted skies. The field is large enough that you can see entire constellations without needing to move your head. In many cases, it also allows you to see constellations that you otherwise wouldn't know are there. I recently used them to find Cancer and the Beehive, both of which were otherwise completely invisible. I was also able to see Coma Bernices without a hint of it with the naked eye.

On another occasion, barely any stars in Leo were visible other than Regulus. With these low-power binoculars, I could immediately see the entire constellation and find the guide stars to help me aim my refractor at the Leo triplet. I know that some Lowbrows passionately hate laser finders, but these



binoculars are great when paired with a laser-guided scope for finding objects by star hopping.

They are definitely a niche item, but they have allowed me to experience the pleasures of simply scanning the night sky without leaving Ann Arbor. ■



## Sky-Watcher Virtuoso GTi 150P Tabletop GoTo Dobsonian

BY ED HERNANDEZ

This is my first telescope. After much analysis paralysis (thanks, internet), I finally bit the bullet and decided on this scope instead of an 8" non-GoTo Dobsonian, for the following reasons:

- Good review, Telescopewatch.com (Editor's Choice)
- Compact size for travel
- GoTo feature, since I don't yet know my way around the night sky
- Good value (just under \$500) including tax, free shipping, from High Point Scientific

The scope arrived on June 7. As you may remember, that week the smoke conditions were terrible, but using the user manual and some YouTube videos, I taught myself how to "day-time check" the collimation; align the red dot finder; make a cheap foam shroud, and take a look at Venus as soon as it appeared to the naked eye. I was able to fine-tune the red dot finder, then enjoyed looking at half a Venus (up to now, I've only seen that in photographs). I was then able to GoTo Mars (it was near Venus anyway) without seeing it with the naked eye first, so that was pretty cool despite the smoke.

I took the scope out again on June 14 to a local field and was able to stay up later and find several more objects: Arcturus, Vega, Capella, Mizar/Alcor, Altair, and even M13. Just as important, I was able to use the scope's alignment capabilities to exploit the GoTo feature.

It turns out that if you set the scope level and point it north, it will do a half-decent job of finding, for example, Venus, using the SynScan Pro app. You then continue to use the app to nudge the object into the center of the eyepiece (or you can nudge using your hand), then check the box in the app that accepts your correction. You can keep doing this for random objects and the GoTo will become more accurate.

Cost \$470 plus tax, free shipping

### Specifications:

Primary mirror: 150mm/6"

Focal Ratio: f/5

Focal Length: 750mm

Focuser: plastic helical

Supplied Eyepieces(1.25"):

25mm

10mm

pinhole eye piece cover for collimation

red dot finder

Aftermarket eyepieces purchased later:

6mm SVBONY 68 Degree Ultra Wide

Angle, only \$36



VIRTUOSO GTI 150P Review continued, by 5.



**VIRTUOSO GTI 150P Review** continues ...

Alternatively, you can align the scope using 1, 2, or 3 stars (and a couple of other options I have not explored) using the prompts from the app, and then the next object you GoTo will be even closer to the center of the eyepiece. This requires stars to be visible, at least in the eyepiece, so I usually start with Venus and build from there. The cool thing I discovered was that even if Venus is the only thing I can see with the naked eye, the scope will still find things I can't yet see with the naked eye. Naturally, I have to be careful with my lack of experience, lest I confirm the scope has found something different than what I think I was looking for. Once an object is found (and potentially corrected), the scope will track it.

The next outing was the Open House at Peach Mountain on June 17. This was my first time on Peach Mountain and I was excited to try it out on my best night of seeing so far. It just so happens that my first aftermarket accessory arrived that day: a 6mm SVBONY 68 Degree Ultra Wide Angle. As I'd hoped, experienced stargazers, especially Charlie, were very



helpful in providing their feedback on the scope's optics, confirming my collimation, and checking out the new eyepiece. I got the impression Charlie was impressed by the scope, and then he helped me find several deep sky objects: M13, M10, M81/82, plus the gold and blue Albireo double star. He also commented that he could pick out the 'nice color' of Arcturus, something I'll have to learn better as I gain experience. The galaxies are still smudges to me, even when not looking directly at them, but I'm still excited to see smudges through my scope!

I stayed until well after 1 am, leaving roughly when the rest of the crew at the McMath were also leaving. I had a great time and walked away very happy with my purchase. I spent most of the night finding or GoTo-ing my way with the 25mm, and then skipping the 10mm in favor of the 6mm; and, of course, I enjoyed sharing the view with visitors and fellow club members. I can't wait to take it to a dark-sky site, especially the Headlands. I've been to the Headlands twice before but never with a telescope. The GoTo is helping me become more familiar with the night sky along with my star maps. ■

# OUTREACH: Clinton Public Library Telescope DIY

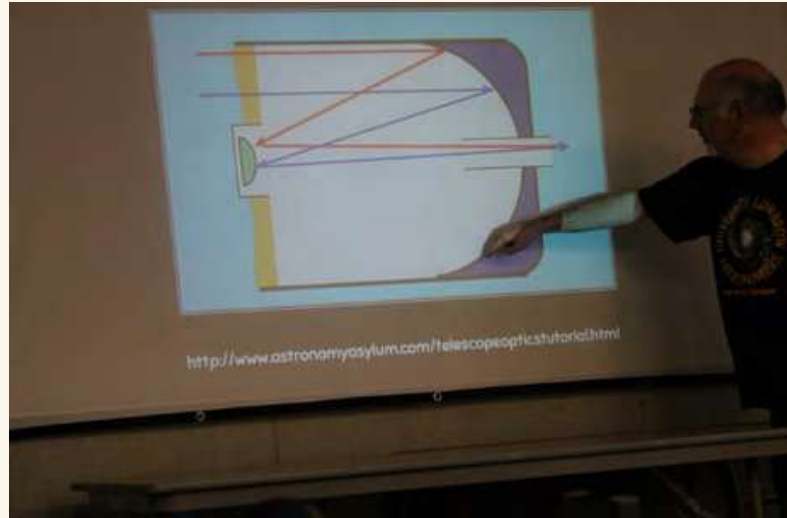
BY JEFF KOPMANIS

Mags Getz from the Clinton Public Library reached out to askthelowbrows@umich.edu to ask for someone to speak to their Thursday afternoon event on June 22, 2023. The theme was "Telescope DIY" where they'd purchased a Galileoscope telescope kit (\$70) and wanted a brief talk before and to assemble the telescope "together." Brian Ottum made the pitch for volunteers, and since I work from home and was between projects, I could easily do an early afternoon session. Mags was prepared and very helpful throughout the whole thing.

I was a little surprised to see the age of the audience. There were 4 or 5 parents, a couple of 12-year-olds, and the rest were probably 8 and under. About 20 showed up out of the 30 that registered.

I did a short 10-minute presentation on telescopes with the Galileoscope in mind. I did my best to keep the youngsters engaged and had a simple exercise to demonstrate Field of View (FoV) using my rolled-up fingers to form two tubes. Telescopes are more or less combinations of FoV (to focus on one area) and magnification (to enlarge the view). I think everyone present "got" the concept and applied it to the three different telescopes in my short presentation.

The Galileoscope was an excellent demonstration telescope since you get a good idea of what's



inside of a telescope and how everything goes together. But the real value was in having a (somewhat?) knowledgeable person explaining each piece and how it functions along the way. Assembly was generally pretty easy; but it's literally held together with rubber bands ... er, "O-rings."

The objective lens was actually glass, and, as the instructions pointed out, was actually two lenses fused together. The telescope body, focuser, and eyepieces were all in halves so that you could insert the lenses as you go. It was interesting to note where the curved and flat surfaces were and how they were to be properly installed. The instructions didn't explain why this might be the case, which was why it was a good idea to have those telescope diagrams and a (somewhat?) knowledgeable presenter/assembler present. A note to future assemblers: some of the pieces are very small, so be prepared!

"Telescope DIY" continued, p. 7





"Telescope DIY" continues ...

The Galileoscope comes with two eyepieces, a 25mm (20x) and a 17mm "Galilean" (25x) eyepiece as well as a "Barlow tube" with instructions on how to assemble the eyepieces to increase magnification to 50x. I can't confirm these magnifications nor what the optical quality is on any of them. The focuser is a simple slide in/out and while the eyepieces are actually the 1.25" standard, I don't think the slide would hold a focus point.

The Clinton Public Library has an 80mm Celestron GoTo refractor that was given to them and I suggested it would probably be the more satisfying device to use -- and Mags agreed. We both felt that seeing the "guts" of a telescope being assembled was worth the effort. She was going to try to test run with it that night before their Friday event, which turned out to be cloudy. (Welcome to amateur astronomy!)

We got a late start, but I finished up with the scope at 3 pm -- right on time. I used the last 10 minutes to show them some of the stuff I've photographed along with some explanation of what the objects might look like through their telescopes. I think they really liked all of the photos.



It was a fun hour spent with an excellent and excited group of youngsters who were more attentive than I had anticipated!

I talked to Mags afterward (and via email) about doing some future outreach, perhaps a "sidewalk astronomy" event, since they have a nascent interest group. The Clinton Public Library was 30 minutes away from me in Ypsilanti and only one block off of US-12, so it was an easy drive and an excellent prospect for future collaboration.

Thanks, Brian, for making sure we did this one. ■



REFLECTION

# OUTREACH ON A MURKY NIGHT

BY ADRIAN BRADLEY

Point Pelee National Park juts into Lake Erie and is perhaps the most southern point in Ontario, CA. It is further south than Detroit. It's a rather large park with beach outlets, and at the bottom of the point is a Nature Center with trails facing Lake Erie. I didn't get to explore those trails during this trip, but I did learn about them from other RASC members. It's a good path to the beach; next time I want to get down and take some pictures. Point Pelee is a great park to visit during the day as well, and it normally closes at 10 pm. If it turns out they stay open till 10 in the winter, I will plan to shoot at night there.

At the height of the event, there may have been 100 people. Many small groups formed using telescopes that someone in their group brought in, and they were doing their own night sky observing independent of the RASC - Windsor Centre. Among the RASC members, of which there were 10 or more, there were seven telescopes of all sizes laid out for the public to view through. My scope was number eight.

M13 was the primary target once Venus set. I also put the scope on Mars, then Antares, and I explained that 'Antares' was Mars' rival. I had a wide enough field of view to put M4 in the same field as Antares and invited the public to see if they could spot it. I talked about averted vision since M4 was faint in the astronomical twilight. It was clear that our



transparency was below average due to the heavy wildfire smoke.

The picture [below left] shows the RASC group when we were near closing time. My scope in the foreground is pointed straight up at M13.

I also demonstrated my Milky Way rig. I have an intervalometer mounted to the top of the camera and connected to the shutter release port so I can enter timed exposures. I set the exposure for 2 minutes, but somehow it ran up to 4 minutes. Still, I had a good rate of tracking going at 35mm. The resulting single image [above] shows a lot more of the Cygnus region than possible to see through the haze we had. There was barely a ghost's whisper of the Milky Way arm visible to the naked eye. It goes to show you that taking a long enough exposure can push through some bad seeing/transparency conditions.

The RASC folks knew that in a public event, people everywhere would be shining lights and ruining night vision. I did ask if there were events where the public

was asked to refrain from doing this. The answer was, Yes: When there are stargazing/star party events further north in Ontario, it's a darker sky, and light behavior is regulated similar to what we exhibit at our star parties.

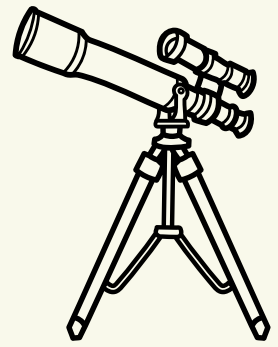
The public seemed to have a good time, as did the folks from the RASC, and we got to exchange information and engage in a great dialogue on what we were observing. This was my first star party in Canada and it definitely won't be my last. ■





# UPCOMING TOPICS FOR THE OBJECTIVE LENS

BY JACK SPRAGUE



What an awkward time we've had lately! Smoke has been more than a challenge. Hopefully, the shift in weather patterns these past two weeks up north will help mollify this intemperate obstacle and allow a return to summer nights. All images are welcome and while we have a monthly theme, we love any submission.

**August** – It is time to celebrate ... the clusters. Balls of stars either globular (the senior citizens of the near-Milky Way environs) or open. I enjoy the billiard-ball / black velvet sort of effect from those of uniform star sizes; but, the open clusters with stars of differing magnitudes across the whole FOV are interesting to parse into concealed asterisms. More than one trace sailboats in my eyes. Nevertheless, let's show our fine focus and capture the conglomeration of stellar lightning bugs from summer (late spring?) nights.

**September** – A lovely summer interlude following the excitement of galaxy season and then cluster season brings what? Stars and asterisms! September is about stars and asterisms. Feel free to share a sentence or two about why your selection is of interest to you. Finding out why astronomers like things is usually even more interesting than the thing itself!

**October** – The Summer Milky Way! Let's get those wide-field imaging machines set up and feature star fields and objects of the best show through summer. August is my favorite Milky Way season because I get to visit true Bortle 1 skies in northern Ontario (the Wabakimi Wilderness Park) and the images are astounding. There is something about a dense field of stars and dust streaking the night. Please share yours! ■

## UPCOMING MEETING SPEAKER SCHEDULE

**July 21:** Norbert Vance, Director of Sherzer Observatory @ EMU.

Topic: *The updated planetarium*

**August 18:** Tamas Gombosi, UM Center for Space Environment Modeling

Topic: *Space Weather: Is the Sun or Humanity*

*More Dangerous?*

**September 15:** Avital Keeley-Polston,  
EMU Physics.

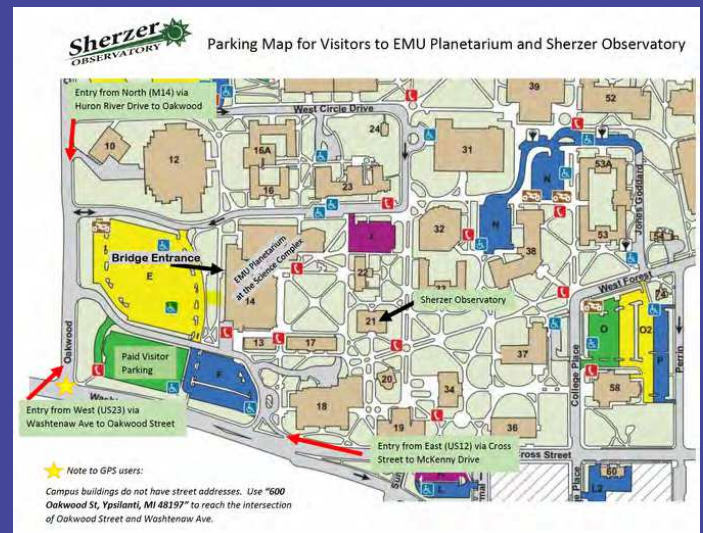
Topic: *Proposing a Mission to Image the  
Oort Cloud: A Literary Analysis of Oort Cloud  
Research*

**October 20:** Dr. Brian Ottum, club VP.

Topic: *Preparing for Next Year's Eclipse*

**November 17:** TBA

**December 15:** TBA



## University Lowbrow Astronomers

### Monthly Club Meeting Minutes

16 Jun 2023, 7:35 pm. Location: Detroit Observatory and on Zoom

President Charlie Nielsen called the meeting to order and then introduced our speaker. NOTE: There were some audio issues for the Zoom participants.

### Speaker

**Who**

Jim Schedlowski, U of M alumnus and long time amateur astronomer

**Subject**

Orbital Light Pollution

The talk can be found on our YouTube Page. The inconsistencies with the audio portion of the presentation may be apparent in the YouTube recording.

After the talk, Charlie called the business meeting to order.

### Business Meeting

Name	Topic
Charlie Nielsen, President	<ul style="list-style-type: none"><li>• Jeff Kopmanis, Amy Cantu, and Dave Snyder have done a great job on our new Lowbrow website.</li><li>• Next month's meeting is at Scherzer Observatory, EMU. There will be free pizza</li><li>• We now have about 15lbs worth of Night Sky Network Posters. They may make great giveaways at A.A.T.B.</li><li>• 6 of the members present stated they would be at the June 17<sup>th</sup> open house.</li></ul>
Doug Scobel, Treasurer	<ul style="list-style-type: none"><li>• We have 201 memberships and \$14,735.04 in the treasury. As of this writing \$227.50 of that money is received from members for their Astronomical League memberships. I will be making that pay ment to the A.L. on June 30.</li><li>• Besides our usual monthly payment for our Open House "hotline" and printed newsletter printing and mailing costs, our only recent expenditure since last month's meeting was \$10.20 to mail a t-shirt to our May guest speaker Buddy Stark.</li><li>• I filed our annual "ePostcard" with the IRS. The ePostcard is a state ment that yes, we are still in business, and that our annual receipts are less than \$50,000.00. It is a required annual filing due to our 501(c)(7) status.</li><li>• I am preparing an order for Lowbrow branded shirts and caps.</li></ul>
Adrian Bradley, V.P.	<ul style="list-style-type: none"><li>• Wrote an article for Astronomy Magazine that was accepted (and paid for). Not sure when it will be published, yet.</li><li>• Reminded the club of G.L.A.A.C. donations. A vote was taken and a donation of \$500 was approved by club vote.</li></ul>



- Invited the membership, especially newer membership, to consider going to the Okie Tex star party as an opportunity to see even darker skies than places here in Michigan.
- Despite cloudy skies and a mix up in location, the Hudson Mills Outreach was a success, as about 20 people (more than half were children) got a chance to observe the crescent of Venus.

Don Fohey, Member	<ul style="list-style-type: none"> <li>• Offered a 3 book set on telescope making, Dmitri claimed the set.</li> <li>• Offered material to make a sun-funnel for displaying the sun safely through any telescope.</li> <li>• During Jack's report, suggested that the Lowbrows offer one of our many telescopes for sale.</li> </ul>
Dave Snyder, VP	<ul style="list-style-type: none"> <li>• Past and current Lowbrow Newsletters have been made public on our website.</li> <li>• More troubleshooting of website issues is happening.</li> <li>• Private areas of our old website are being copied to the new one; should be done in a week or so.</li> </ul>
Jack Brisbin, Observatory	<ul style="list-style-type: none"> <li>• Observatory work:             <ul style="list-style-type: none"> <li>◦ Replaced broken heat lamp parts</li> <li>◦ Installed new multicolor bulbs and red bulbs</li> </ul> </li> <li>• Celestron Starhopper telescope back in observatory, telescope inventory updated</li> <li>• Mount for the 8in Cassegrain has been fixed.</li> <li>• The McMath mirror will undergo some temporary tests. • An old style ladder has been refurbished and will be put on sale.</li> </ul>
Jim Forrester, VP	<ul style="list-style-type: none"> <li>• The Lowbrows are a part of the International 'Back to the Moon' Event taking place June 23-25, 2023</li> <li>• We need confirmation from either the Hands on Museum or Adrian's church to participate at either venue.</li> <li>• Members can participate by just being out on the street and pointing their telescopes or other instruments at the moon.</li> <li>• If you want to learn how to operate the 17.5" Club Scope, please let him know.</li> </ul>

### Addendum

Attendance for tonight's hybrid meeting: 30

### Adjourned

9:35:00 PM

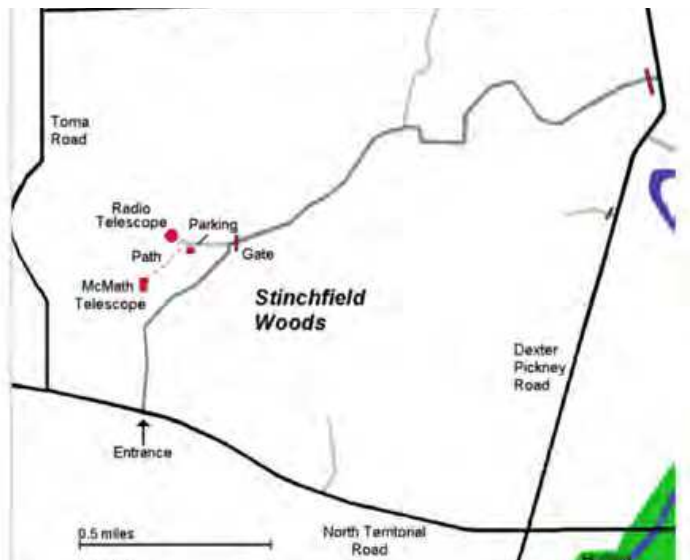
### Minutes were taken and transcribed by

Adrian Bradley

## 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.

Lowbrow's Home Page

<http://www.umich.edu/~lowbrows/>

## 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](mailto:lowbrowdoug@gmail.com)

Lowbrow members can obtain a discount on these magazine subscriptions:

**Sky & Telescope** - \$43.95/year

**Astronomy** - \$34.00/year, \$60.00/2 years or \$83.00/3 years

### 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](mailto: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:	Adrian Bradley (313) 354-5346
	Jim Forrester
	Brian Ottum
	Dave Snyder
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.

Email to all members

[Lowbrow-members@umich.edu](mailto:Lowbrow-members@umich.edu)





# University Lowbrow Astronomers

