

# REFLECTIONS / REFRACTIONS

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University Lowbrow Astronomers Monthly Newsletter

September 2023, Vol 47, Issue 9

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**THE PERSEIDS**      PHOTO BY GLENN W. KAATZ

Information about Glenn's photo, page 8.  
Additional photos of the Perseids, page 6, and in this  
month's issue of the Objective Lens.



# OWOSSO AIRPORT EVENT

BY CHARLIE NIELSEN

Thanks go out to Jim Forrester, Jeff Kopmanis, Brian Ottum, and Gary Nichols for joining me to take on this event. The sky was partly cloudy as we were setting up. We then ate together; a full meal, very tasty. And after we finished, we walked over to our scopes to discover the sky was completely cloudy! But we waited it out and pretty soon we were able to view the Moon through passing clouds. Eventually, the sky cleared completely, allowing views of Saturn and a few DSOs.

It was cool right after sunset and we put on jackets. We enjoyed the venue despite the urban setting because we had a great surface upon which to set our equipment and the horizons were very good; especially to the south, east, and west.



I'm guessing the event had around 50 participants, about half of whom came to our area and spent time with us. They were impressed -- even blown away -- by what we showed them.

## PHOTOS FROM

### JEFF KOPMANIS

We also got to see a brief lighting of the runway and watch a plane land and come over near us to refuel.

I was rather surprised overall that its light was not a nuisance. It was also amazingly quiet for a plane. The operator of the airport was with us the whole time and thoroughly enjoyed it; he cooperated fully on lighting, too. It was a friendly bunch of people and we enjoyed their company. The event was a success! ■



Observing: (all times EST)  
Average Sunrise 06:15, Sunset 20:50.

# OVER THE HORIZON

BY JACK SPRAGUE

A short article this month with the theme of “no more smoke!”

Back to basics: It’s a Messier month!

I’m grateful this month for automation. There are several ways to go about making automation work for a semi-remote observatory (one in WIFI reach). ASCOM/INDI drivers and a Raspberry Pi using N.I.N.A/SharpCap/PHD2. The full suite of products available are too numerous to cover here but very little effort with some Google-Fu brings a plethora of options to any aspiring AP automator.

Full remote observatories require other considerations. But, for the majority of us, these more modest tools provide the core session management we need.

I followed the Apple model -- a single brand of interoperable products. I use the ASI AIR Plus with the ZWO autofocuser, guiding camera, mini-filter wheel, and various primary cameras (at the moment the 183MC Pro and the ir-sensitive 462 OSC). This family of products allows me to automate targets and exposure sets throughout the night and to guarantee interoperability with minimal effort. I’m thankfully able to sleep during the week and only glance at my iPad for a status update and perhaps a 3:00 a.m. peek at the exposures.

The joy of processing my images and observing what is possible from a modest set-up in the north meadow (I use a carbon fiber ES 127mm refractor reduced to 680mm focal length) makes it worthwhile. I see electronically far more than I can observe through an eyepiece.

The current AP generation cycle is far more enjoyable than that of “digitizing” flat-plate exposures by hand using a mouse-like pointer to transcribe decades of observational frames into a compendium of positional data. This student labor was my first exposure to the mapping of the universe and using computational analysis to determine orbits and other behavior for near-Earth objects.

## The Moon Phases:

Date	Day	Phase	Rise	Set
30 Aug	Wednesday	Full Moon	20:27	07:27 (31 <sup>st</sup> )
06 Sep	Wednesday	3 <sup>rd</sup> Quarter	23:44	16:02 (7 <sup>th</sup> )
14 Sep	Thursday	New Moon	06:37	19:54
22 Sep	Friday	1 <sup>st</sup> Quarter	15:25	23:49
29 Sep	Friday	Full Moon	08:53	20:03

“Pearls moving against the background” was my early mantra. Who knew I would return to it as an avocation?

My kit:



Beagle Meadows observing rig with ... Lilly beagle!

The core of the optical train: an automated focuser, an electronica filter wheel, a cooled camera for those summer evening exposures



If the late nights weigh too heavily, consider the joys of automated EAA and AP. I’m in bed by midnight and – yes – the rain alarm apps do indeed work quite well preventing the unexpected wetting of unattended gear.

The items listed for observing this month all concern the Messier list. Following our smoke-induced vacation of June and July, it seemed reasonable to return to those objects that began it all for many of us.

Enjoy!

OVER THE HORIZON continues, p. 4.

Planetary Outlook September 15 (shamelessly borrowed from timeanddate.com).

**Mercury** – meridian 12:31 (rise 06:00 set 19:03). Difficult.

**Venus** – meridian 10:58 (rise 04:13 set 17:43) Great visibility.

**Mars** – meridian 14:42 (rise 08:57 set 20:42) Difficult.

**Jupiter** – meridian 04:44 (rise 21:45 set 11:43) Lovely viewing.

**Saturn** – meridian 12:16 (rise 06:59 set 05:32) Lovely.

**Uranus** – meridian 05:13 (rise 20:21 set 12:25) Average viewing.

**Neptune** – meridian 01:40 (rise 19:48 set 07:32) A little difficult.

Meridian Constellations as of 15 September – 22:00 hours.

(-), (--) represent a positional modifier to constellations and objects east of the meridian by less than an hour and more than an hour. (+), (++) represent a positional modifier to objects west of the meridian by less than an hour and more than an hour, respectively.

I mention here a few Messier objects contained in the constellations which I find meaningful. The list is in no way comprehensive of all the objects of interest but it does cover the main “M” objects along the meridian. If you are starting your Astronomical League Messier Observing Program, you can do far less than to open with the objects listed this month. Twenty-nine are listed and documented observations of seventy objects earns a pin!

The University Lowbrows are affiliated club members of the Astronomical League.

--Southern Horizon--

### Sagittarius

M8 / NGC 6523 – Lagoon Nebula and cluster. (18h 3.8' x -24° 23').

M17 / NGC 6618 – Horseshoe Nebula. (18h 20.8' x -16° 11').

M18 / NGC 6613 – Black Swan Cluster. Open cluster. (18h 20' x -17° 06').

M20 / NGC 6514 – Trifid Nebula. (18h 2.5' x -23° 02').

M21 / NGC 6531 – Open Cluster. (18h 4.2' x -22° 30').

M22 / NGC 6566 – Great Sagittarius Cluster. Globular cluster. (18h 36.4' x -23° 54').

M23 / NGC 6494 – Open cluster. (17h 56.9' x -19° 01').

M24 / NGC ~none~ - Small Sagittarius Star Cluster. Star cloud! (18h 17.4' x -18° 36').

M25 / IC 4725 – Open cluster. (18h 31.75' x -19° 07').

M28 / NGC 6626 – Globular cluster. (18h 24.5' x -24° 52').

M54 / NGC 6715 – Globular cluster. (18h 55.1' x -30° 29').

M55 / NGC 6809 – Globular cluster. (19h 40' x -30° 58').

M69 / NGC 6637 – Globular cluster. (18h 31.3' x -32° 21').

M70 / NGC 6681 – Globular cluster. (18h 43.2' x -32° 18').

### Capricornus

M30 / NGC 7099 – Globular cluster. (21h 40.4' x -23° 11').

### Sagitta

M71 / NGC 6838 – Globular cluster. (19h 53.8' x 18° 47').

### Vulpecula

M27 / NGC 6853 – Dumbbell Nebula. Planetary nebula. (19h 59.6' x 22° 43').

### Cygnus

M29 / NGC 6913 – Open cluster. (20h 24.1' x 38° 30').

M39 / NGC 7092 – Open cluster. (21h 31.9' x 48° 25.5').

### Lyra

M56 / NGC 6779 – Globular cluster. (19h 16.6' x 30° 11').

M57 / NGC 6720 – Ring Nebula. Planetary nebula. (18h 53.6' x 33° 02').

### Draco

M102 / NGC 5866 – A clerical mystery of the M-objects. Lenticular galaxy. (15h 6.5' x 55° 46').

### Ursa Major

M109 / NGC 3992 – Barred spiral galaxy. Distinctive. (11hr 57.6' x 53° 23').

M97 / NGC 3587 – Owl Nebula. Planetary nebula. (11hr 14.8' x 55° 01').

M108 / NGC 3556 – Spiral galaxy. A wonderful edge-on galaxy. (11hr 11.5' x 55° 40').

M40 / Winnecke 4 – Double star! Mag 9.0 and 9.6. Separation is close to 53". (12hr 22.4' x 58° 05').

M101 / NGC 4321 – Mixed spiral galaxy. (12h 22.9' x 15° 49').

M81 / NGC 3034 – Spiral galaxy. Showpiece. Stunning. Bright. Large. (9hr 55.6' x 69° 04').

M82 / NGC 3034 – Irregular galaxy. The cigar shaped member of the M81/M82 pair. 12.0' x 5.6'. (9hr 55.8' x 69° 41').

--Northern Horizon-- ■

# SPLITTING DOUBLES!

BY ALEX SWARTZINSKI

As a deep sky observer, faint fuzzies steal much of my observing time and sleep schedule. Unfortunately, many variables must be aligned for a good DSO night. The transparency can't be full of burned Canadian trees. The moon should not be in the sky. Light pollution levels are best at a minimum. I make a decent effort to attend these dark nights, but the real world can get in the way.

This leads to urban observation -- those brief glimpses in the backyard observing double stars, planets, and Luna. I've always enjoyed the relaxed experience of observing from the city, but I began to feel like I was missing something from these nights. I have a mission mindset when I'm at a dark site. There's a carefully assembled list of objects to find and view, and it's very rewarding to log these observations. From the urban yard, most of my observing has been unstructured and unplanned. This led to a stale feeling after a couple of years. I'd seen many of the obvious double stars, but I didn't make an effort to catalog them or hunt for new pairs.

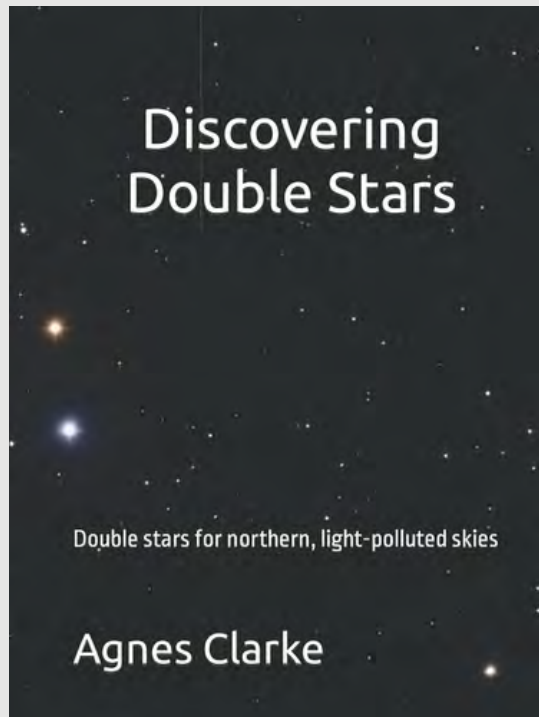
As is the case for many great observing resources, I turned to a book for inspiration. **Discovering Double Stars** by Agnes Clarke serves as an excellent road map to begin a more serious study of double stars. This book contains 300 of the sky's best doubles, presented with finder charts that account for light-polluted conditions. These pairs are organized by constellation and feature descriptions from Clarke. All pairs are observable with small telescopes. The tightest pair from this list is around 2.5".

It's great to hunt new objects from any location. My backyard sessions have extended in length as I explore the sky in an entirely different manner from my usual pursuit. However, working in urban conditions presents challenges. Star hopping is more difficult, but these skills translate to better hopping ability under dark skies.

My takeaway from this experience is that the sky can provide hours of entertainment from almost anywhere. I still prefer DSOs, but double-star hunting makes a fantastic change of pace when the moon is bright. ■

A few doubles that I've been enjoying in my pursuit to observe all 300 pairs:

Struve 2449 (Aquila)  
Eta Cas (Cassiopeia)  
STT 2486 (Cygnus)  
61 Cyg (Cygnus)



A supermoon provides plenty of lighting to read the double star list!

## OPEN HOUSE REPORT: THE PERSEIDS SHOW

**ADRIAN BRADLEY:** As expected, we had a great turnout for watching the Perseid Meteor Shower. These photos describe the night better than I can write about it. As was likely the case all over Michigan, we had good transparency and average seeing. Jim Forrester and I estimated that between 80 to 100 people showed up. We needed a parking attendant as well as a greeter to handle the larger crowd that was eager to come to a place away from city lights.

**NOTE:** The Perseids in these couple of photos were ones that flew by undetected by any of us. But there were a few brighter meteors that drew 'oohs' and 'aahs' from the crowd.

A special thank you to all of the Lowbrows who came out to help facilitate the event. A couple of us (including myself) may have left early, but the meteor shower went well into the next morning.



**JACK BRISBIN:** We saw the Starlink configuration rise over the observatory from the west around 10:15 p.m. I would agree with the 2nd to 3rd magnitude variance in the configuration. But the people in the Observatory had a different opinion: What is that? Did something blow up in the sky? We had to do some explaining, but it did attract a lot of interest.

While we were looking at Saturn, about 8 to 10 people tried to photograph the planet with their cell phones. I think one person got a decent photo. I closed the Observatory at 2:30 a.m. There were 80+ people and some of the kids came back a second time to look at Alberio and Saturn. ■

P H O T O S   B Y   A D R I A N   B R A D L E Y



# OBSERVING SATURN DURING THE BLUE SUPERMOON

BY ED HERNANDEZ

In case anyone was wondering why I was observing last night [8/30/23] during the blue supermoon, I wanted to see Saturn again. Many years ago, one of my church friends brought out his two homemade Dobs when Saturn and Jupiter were fairly close and I remember how in awe I was. As I've said to some of you in person, it's one thing to see objects in print or on the internet, but it's another to see them with your own eyes. I've never forgotten that sight, but I also have not observed Saturn or Jupiter since.

I received permission from the officers of my flying club (Flying Pilgrims RC Model Club – a club of radio-controlled model aircraft enthusiasts who enjoy flying) to observe on their field after dark. I happened to be an instructor at the Club, so I brought my equipment with me and set it up after we were done flying. Of course, everyone wanted a look, so it turned into a little open house. The field is in Superior Township, directly adjacent to Canton, so the conditions were horrible -- light pollution, early evening, super moon rising, super moon ruining our night vision, etc. But it's a reasonably open site close to my house and I was already there, so I set my expectations accordingly.

We were not disappointed. We easily found Saturn. We pointed the scope at it before the moon left the tree line, and wow, I was just as awed as I was before. More importantly, everyone there said the same thing: "Wow, I've never seen Saturn with my own eyes!" That's why I invited them to stay. We even saw one of Saturn's satellites.

I left the scope up even after the moon had risen and was still able to make Saturn out in the moon glow. I was also able to find some other familiar targets, double stars, and M13 (a smudge in my scope). But before Jupiter rose, the eyepieces started to fog and it got colder than my

guests were prepared for.

The naked eye moon was of course amazing. I didn't dare look at it through the scope but we all had a look through my binoculars (newly acquired Cometron 7x50, which I hope to do a review of later). We could even read each other's t-shirts and saw shadows on the ground because of the moonlight. So, yeah, bad for observing but not bad for the fun factor. There was even enough light for my guests to take photos of the environment with phone cameras that captured some impressive detail and reflections without a flash.

Anyway, that's why we were out in the wrong conditions. We take what we can get. ■

## UPCOMING MEETING SPEAKER SCHEDULE

**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:** Tim Campbell, NASA Solar System Ambassador.

Topic: *James Webb Space Telescope*

**December 15:** TBA

**January 19:** Melissa Kaelin, Founder, Michigan Aurora Chasers

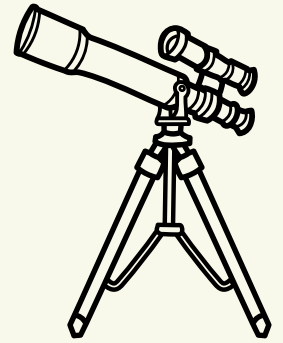
Topic: *Outsmart Space Weather Forecasts to Catch Aurora in Your Backyard*

**February 16:** TBA

# UPCOMING TOPICS FOR THE OBJECTIVE LENS

BY JACK SPRAGUE

Our Lowbrow photographic roll features images from snapshots, eyepiece imaging, EAA captures, and astrophotography. All images are welcome and while we have a monthly theme, we love any submission.



**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 thought 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!

**November** – My personal favorite as the time has shifted allowing family, friends, and neighbors the chance to share the night skies before the temperatures plunge to “parka.” We feature this month the galaxy Andromeda which is – perhaps beside the moon – the most awe-inspiring celestial in our northern sky. Let’s showcase our nearest major galaxy and perhaps brush off those mosaic skills!

**December** – Back to Basics: Caldwell objects, Messier objects! This month is a tribute to the observing lists that started all the curiosity for some of us. While the Herschel 400 catalog contains many, many stunning objects, those most achievable tend to be found in the 109 Caldwell and 110 (accepted) Messier object lists. Classic AP topics for the holiday season: perfect. ■

**THE PERSEIDS**, by Glenn Kaatz, continued  
from page 1.

I traveled to Lake Hudson on August 12 and I positioned myself near the tree line on the north end of the beach area, which blocked out an irritating light source. I started capturing images at about 11:15 p.m. and went continuously for 1 hr 20 min, capturing 15-second exposures with a two-second gap between images for 287 in all. Out of those, I captured two great and two not-so-great meteors - a success rate of 1.4%. However, other meteors were visible outside my camera's field of view. I positioned myself in such a manner as to have the expected radiant in the frame.

## Photo capture details:

Photopills used for planning purposes.  
Nikon D850 on a tripod, employing the built-in intervalometer  
f/2.8, ISO 3200, shutter 15 sec continuously with a 2 sec delay between frames.

Rokinon 14mm lens employed, with a dew heater attached.

Processing was Lightroom and Photoshop, using a technique that merged all meteor captures into one sky/foreground frame. I followed the instructions provided in a free ebook I obtained from the National Parks at Night photo group. ■



Meeting was called to order by Charlie Neilsen at 7:34 PM.

Our guest speaker Dr. Tamas Gombosi gave an excellent talk about space weather, which is the interaction between the solar wind, flares, coronal mass ejections (CMEs) and our atmosphere, and the subsequent effect on human activities. The question and answer session with our speaker concluded at 8:50 PM.

Austin Edminister, with the Detroit Observatory, then spoke about a recently donated historic Zeiss telescope that they hope to conserve and share with the public.

Our business meeting began at 9:05 PM

Charlie discussed the Owosso fly-in star party on Saturday August 26th, 2023. Look for more information from Charlie, and let him know if you are interested in participating. The lowbrows with telescopes are a feature at this event. On the same night, Kensington Metropark is having "Blue Moon on the Beach", with a live band and telescope viewing provided by other area clubs.

The club needs more speakers. We have no speakers yet scheduled for our November and following meetings. Let Charlie know if you have found a speaker or would like to present.

Jeff Kopmanis - Online Coordinator

Our attendance was 14 online and 30 in person for today's meeting.

Jeff, Amy Cantu, and Dave Snyder have been working on moving content into our new website, available via: <https://lowbrows.club/>

Our current website has a URL of <https://websites.umich.edu/~lowbrows>, but we have a shortcut domain <https://lowbrows.org> that points to that longer address. Changes to the web service at UM will likely mean prohibitively expensive costs and changes to service. As a result, the club has purchased alternative hosting and we have been migrating content from the old site, to a new WordPress site at <https://lowbrows.club>. WordPress will allow more people to edit the web content, easing the burden on our Webmaster. When the migration is complete, <https://lowbrows.org> will be redirected to point to the new site, requiring no changes on the part of our members and the general public.

Astronomy At The Beach will be September 22nd and 23rd, at Island Lake state recreation area. For more information visit [glaac.org](http://glaac.org). During the event there will be many speakers presenting, and NASA Glenn Research Center will have an exhibit. There is room on the telescope field at the event for more lowbrows, please consider setting up your scope and sharing the night sky. Share this event with your friends and on social media, GLAAC hopes to have around 5000 guests attend but needs help getting the word out. ]

Dave Snyder - VP

There are photos on our current website, many have been moved into the private area on our new website. Please look to see if there are any specific photos you wish to have or see on the new website. Access to those photos on our current website will be lost at some point in the future when U of M changes their web hosting systems. Work continues on the new website.

Jim Forrester - VP

We had nearly 100 visitors Saturday August 12th for the Persied meteor shower with only a small number of lowbrows helping to run things. We did not have enough members to manage such a large crowd well. It would be very helpful if every member in the area would attend at least one open house during the year.

Saturday August 19th is a scheduled open house, and would be a good opportunity to learn about our observatory, the McMath telescope, and open house operation in general.

Jim and many other lowbrows will be attending the Okie-Tex star party (September 8th - 16th). So we will need lowbrows (other than the usual suspects) to coordinate and run our open houses scheduled for September 9th and September 16th. Please consider helping.

Jack Brisbin - Observatory Director

Things are going well at the observatory. However the Argo-Navis digital setting circles unit on the McMath is acting oddly. It is forgetting its latitude and longitude, randomly changing the angles and compass directions. The unit is probably over 15 years old. The system has been serviced and upgraded but this may be a fatal problem. If still available, we should consider purchasing a replacement.

Jack is working on getting a dehumidifier for the observatory and hopes to have more information soon.

The club has many scopes and other equipment that can be loaned to members. We also have obsolete paper forms to track such loans. These forms refer to a non-existent "Equipment Manager" and assume all the items return to one person. Jack is working on updating these to reflect the current distributed stewardship of our equipment. Jeff Kopmanis will see if we could set up the revised forms on our new website for easier access.

The meeting adjourned at 9:30 PM.

Doug Scobel - Treasurer (via email)

We have 204 memberships. Besides our monthly payment for our Open House "hotline", and the cost of printing and mailing our printed newsletter, expenditures since last month's meeting

were:

\$193.82 for pizza, cookies, and soda at the July meeting at EMU - thanks again, Norbert!

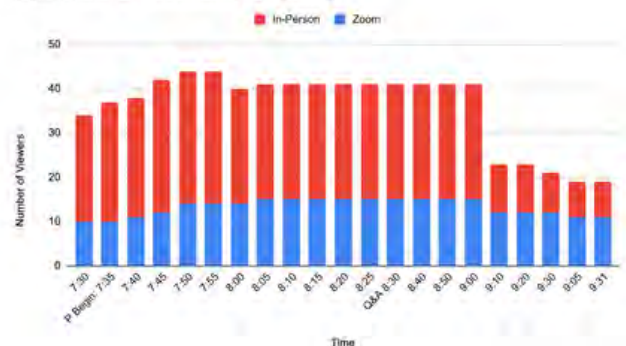
\$500.24 (\$640.00 Canadian) donation to the RASC Hamilton Observatory to help them with repairs after it was vandalized.

\$36.00 to ship NSN award pins to their recipients.

Respectfully submitted,  
Ken Cook

Meeting Attendance

August 16, 2025 - Dr. Tamas Oombosi - UM Engineering



## 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

