



June, 2021

July Meetings

The next **Membership Meeting** will be on Monday, July 19th from 8 PM via Zoom videoconference. We will be watching a video by Vsauce entitled: Will we ever visit other stars? The video presentation will be followed by a discussion.



As always, the **Board Meeting** will be held right before the Membership Meeting, from 7 PM, and is open to every MAS member who is interested in organizational and Observatory related issues.

The **Astrophotography Interest Group** will meet on Wednesday, July 14th at 7 PM through Zoom videoconference. There is no designated topic for this month, it will be an open forum format. Any imaging related topics can be brought up.

The **First Wednesday (How to) Meeting** will be held through Zoom videoconference on July 7th, from 7:30 PM. This is an informal meeting to discuss technical aspects of astronomy, however, any astronomy-related topic can be brought up. New members are especially encouraged to attend this meeting. It is a chance to receive tips on how to get started and/or get more involved in the Club's activities.

Invitations will be sent out prior to meetings.

The MAS Google Group is as active as ever. Learn about the astronomical news, follow equipment related discussions, or just check out the latest images taken by fellow Club members.

COVID-19: The Milwaukee Astronomical Society follows the [CDC Guidance](#) in all our activities

COVID-19 Update: The MAS Board has decided that going forward we will follow the CDC COVID Guidelines. Basically, you do not need a mask if you are fully vaccinated. A good summary can be experienced by going to any business. We understand that some of our members/guests will not be totally comfortable with this, but participation is entirely voluntary.

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Observatory Director Report

Russ and Gene have taken on the project of much needed maintenance of the clubs two 18" Obsession Dobsonian Telescopes. One remains in the "D" Shed and the other is being stored in the "Z" Building having been removed from the "C" Shed to make room for a 9" Cassegrain that has a GOTO mount. Thank you, Lee, for taking the lead on getting the GOTO scope up and running. I am sure by the time Russ and Gene are finished the scopes will be in tip top shape.

The B-dome's maintenance issue on the dome's lower slit door has been repaired and is working fine. If you open the "B" Dome's slit please try not to let the lower slit cover drop open, this is what caused the problem.

There will be a new keyholder in the rotation for the second half of 2021. William Gottemoller will as of 7/1/2021 become a full keyholder. Congratulations William!

With more clear nights lately the Observatory has seen good use. Clear member nights are being well attended.

Respectfully Submitted,
Paul Borchardt, Observatory Director

Treasurer's Report

\$13,369.02	Starting Balance as of 05/15/2021
	<u>Expenditures</u>
\$16.25	PayPal fees
\$1,070.00	A-dome roofing deposit
\$64.27	WE Energies
\$1,150.52	TOTAL Expenditures
	<u>Revenue</u>
\$281.33	Private donations
\$500.00	Membership dues
\$32.00	Astronomical League
\$1,001.00	Grants
\$1,814.33	TOTAL Revenue
\$14,032.83	Ending Balance as of 06/21/2021

Respectfully Submitted,
Sue Timlin, Treasurer

Minutes

Due to the COVID-19 the February Board Meeting was held via Zoom videoconference on June 21st. The meeting was called to order at 7:04 PM by Tamas Kriska President.

Minutes, and Treasurer's Report electronically submitted ahead of the meeting were approved.

Observatory Director's Report electronically submitted by Paul Borchardt Observatory Director ahead of the meeting was approved.

Membership Committee Report was submitted electronically ahead of the meeting. Membership applications of Cara Levinson, Larry Wilson, Hamza Syed, Daniel Eronson & family, Aniket Singh, Evan Marek, Mark Kubisiak, and Joe FitzGibbon & family were approved.

Old Business – Rubber roofing of A-dome: A quote of \$3,535 from TriCountry Contracting was accepted by e-voting with 13 supporting votes. Jill coordinates the project, and she will give updates about the progress. The work is supposed to be finished by the end of July. **Public Nights:** The accepted (September 10th, October 1st and 29th) dates were put on the website. **Spring clean-up:** A work party is scheduled for Saturday, June 26th at 10AM.

New Business – Covid policy update: A motion was made and carried that MAS will follow the actual CDC guidelines. A statement with a link to CDC will be provided on the MAS website, and also on the Google group. **B-scope:** Paul suggested replacing B-scope with an imaging equipment. The suggestion will be discussed first at the Observatory Committee, which will meet on June 27th at 7PM. **Special pick up of garbage accumulated in the garages and observatories:** Jill will ask for a quote. **MAS checkbook:** New set of checkbooks should be requested with the current Treasurer's name.

Announcement – The next meeting will be on Monday, July 19th, 2021 via Zoom.

Program – Video presentation by Tony Tyson: Satellite Constellations and Astronomy.

Respectfully Submitted,
Agnes Keszler, Secretary

Membership Report

Since the last Report we received 12 new membership applications. We welcome Cara Levinson, Larry Wilson, Hamza Syed, Daniel Eronson & Family, Aniket Singh, Evan Marek, Mark Kubisiak, and Joe FitzGibbon & Family, Karina Benitez & Family, James Plotz, Rebecca Surles, Kesha Patel. The total number of active members is 196.

Respectfully Submitted,
Jeff Kraehnke, Committee Chair

Members Story

Wisconsin Observers Weekend (WOW) 2021

The WOW star party was held at Hartman Creek state park, a few miles south of Waupaca, from Thursday to Sunday, 6/10 to 6/13/2021. The Northeast Wisconsin Stargazers club has been the host of this yearly star party for many years. They reserve all 5 of the group campsites for the event.



Many people camp out with either tents or campers. Other people drive in for the evening and set up their scopes. Whether you are just starting out, or getting up in age where toting your own equipment is a chore, having your own scope is not a requirement.



Though I do bring my own scope, everyone keeps moving from scope to scope to see what the others have found in their eyepieces. Lots of camaraderie, with a sprinkling of snacks to keep you motivated. I have learned so much about different eyepieces, types of scopes, the advantages of certain filters, and comparing the same object in different scopes. Meeting and talking with so many others in the group campsites brought a big variety of experience and topics of discussion.

I was there from Thursday through Sunday, camping in a tent at group site 1. Though mostly attended by Wisconsinites, I also met people from Illinois and as far away as Iowa.

Thursday and Friday daytimes were hot, and storms rolled in for both those evenings. But Saturday had cooled, humidity dropped, and was awesome for viewing. Many people had shown up for Saturday evening and set up their equipment that night.



Lee Keith and Scott Jamison from our club were there with their scopes. Everyone went from scope to scope looking at all the sky objects we had not seen with our own eyes in a long time.



A slight crescent moon was visible at sunset and set early. The milky way was easily apparent across the whole sky. My Sky quality meter read 21.26 to 21.30. The cluster of Virgo galaxies were easy to find and see. Lee with his OIII filter made it super easy to see the veil nebula. That was the first time ever for me to see the veil with my own eyes. The Ring nebula, dumbbell nebula, globular and open clusters, galaxies, planetary nebula, double stars, etc. A few diehards were the last up when Saturn and Jupiter rose closer to dawn to cap off the evening.

Next for me: Nebraska star party in early August, followed right behind it by the Northwoods star fest near EauClaire.

Mike Bauer

Members Story

Got my FREE Moon photos at the MAS Observatory!!



Went to the Observatory on last Saturday's Member's Night and brought my smartphone to get my free Moon pics and here they are! The people at the Observatory were very friendly and helped me put my phone in the holder and attached it to the C9.25 telescope and let me take as many pictures as I wanted. All for free!

I give the MAS a triple LIKE!!!

I also want to give a hearty "Thank You!" to Bob Mueller for his donation of a second smartphone holder. It is a little nicer than the current one. Thanks, Bob! I put it in C-shed with the other holder.

Lee Keith



In the Astronomical News

Dust and a Cold Spell on Betelgeuse Could Explain Why the Giant Star Dimmed

Astronomers around the world were startled in late 2019 when Betelgeuse, one of the brightest stars in the sky, grew dark for several months. Rumors swirled that the star was about to go supernova. It didn't. But debate over what was going on exploded. Now, newly released images taken before and during the "Great Dimming" suggest what happened: The star's surface cooled and triggered a cloud of dust that temporarily blocked its light.

"This is the best interpretation we can get with the data that we have ... without flying our spaceship to Betelgeuse and seeing what's going on there," says astrophysicist Emily Cannon of KU Leuven in Belgium.

Cannon and colleagues used the SPHERE instrument on the European Southern Observatory's Very Large Telescope in Chile to take snapshots of Betelgeuse for more than a year. Serendipitously, the team had captured an image of the star in January 2019, months before the dimming began, and could compare that image with others taken in December 2019 and January and March 2020. The dimming wasn't spread uniformly across Betelgeuse's surface. A dark splotch was concentrated over the star's southern hemisphere. The researchers then ran computer simulations of the star, which included incorporating how dynamic gas bubbles constantly churn beneath its surface, to figure out the likeliest explanation for the way that the dimming played out.

Earlier observations of the star had split astronomers into two camps. One group thought that a cloud of dust had blocked Betelgeuse's light. Another thought that there wasn't enough evidence of dust, and the dimming was due to temporary cooling at Betelgeuse's surface.

Astrophysicist Miguel Montargès says that now that he's seen his team's data, he's in both camps. "The most natural conclusion is that both events happened," says Montargès, of the Paris Observatory.

The team's hypothesis is that in late 2019, a temporary cold patch formed in Betelgeuse's southern hemisphere due to the normal churning of surface plasma, and that cooling caused the star's light to dim. The cold patch then allowed

gas that had been released from the star's surface to cool enough to form dust particles, which further blocked the star's light.

"You start getting a runaway effect," which makes it easier for more dust to form, says astrophysicist Emily Levesque of the University of Washington in Seattle. As the dust spread out, the starlight shone through again.

Some astronomers are still unconvinced that dust is part of the answer. The images plus simulations don't prove dust was there, says astrophysicist Thavisha Dharmawardena of the Max Planck Institute for Astronomy in Heidelberg, Germany. "This discussion will continue till we

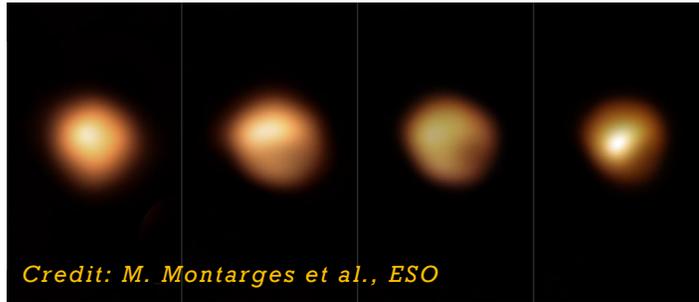
obtain direct evidence for dust," says Dharmawardena, who has looked for — and failed to find — signs of dust during the Great Dimming. Montargès thinks the dust was just hard to see using

other techniques. "When people say they are not seeing new dust, I think they are wrong," he says. "It's that their data does not allow them to see it."

Both researchers agree that the Atacama Large Millimeter Array in Chile could break the stalemate. That telescope was out of commission last summer due to the COVID-19 pandemic, when its observations would have been most useful. More observations are scheduled for this summer, and if dust is still there, ALMA should see it. Still, "if we cannot identify it, it's not because it's not there," Montargès says. "It's because we are too late."

The Betelgeuse observations may help astronomers recognize similar dimming events in other stars, Levesque says. Betelgeuse is Earth's closest red supergiant star, a late phase of the stellar life cycle that comes before a supernova explosion. While dust does not predict an explosion, it can be part of how these stars lose mass before they die.

So when will Betelgeuse go out with a bang? "Not today," Montargès says. "Every day, we are closer to the explosion, that's for sure. I think it's not tomorrow, or even in our lifetime, for Betelgeuse."



Credit: M. Montarges et al., ESO

Adopt a Telescope Program - Signup Sheet

Adopter	Scope	Location
1 Sue Timlin/John Hammetter	18" F/4.5 Obsession	Wiesen Observatory
2 Steve Volp	12.5" F/7.4 Buckstaff	B Dome
3 Robert Burgess	12.5" F/9 Halbach	A Dome (Armfield)
4 Russ Blankenburg	9-1/4" F/10 Celestron	Albrecht Observatory
5 Jeff Kraehnke	14" F/7.4 G-scope	Z Dome
6 Lee Keith/Tom Kraus	12" F/10 LX200 EMC	Tangney Observatory
7 Colin Boynton	10" F/6.3 LX200	Ray Zit Observatory
8 Tamas Kriska	Stellarvue SVQ 100 F/5.8	Jim Toeller Observatory
9 Paul Borchardt	Solar scope	SkyShed POD

At Your Service

Officers / Staff

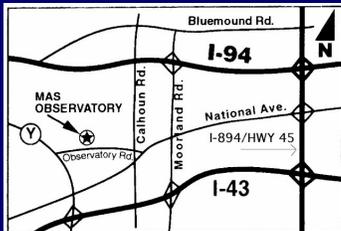
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Lee Keith	414-425-2331
Jim Schroeter	414-333-3679
Gabe Shaughnessy	262-893-4169
Steve Volp	414-751-8334
Mike Wagner	262-547-3321

July Keyholders

07/03	William Gottemoller	262-442-3686
07/10	Lee Keith	414-425-2331
07/17	Jeff Kraehnke	414-333-4656
07/24	Tamas Kriska	414-581-3623
07/31	Tom Schmidtkunz	414-352-1674



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