

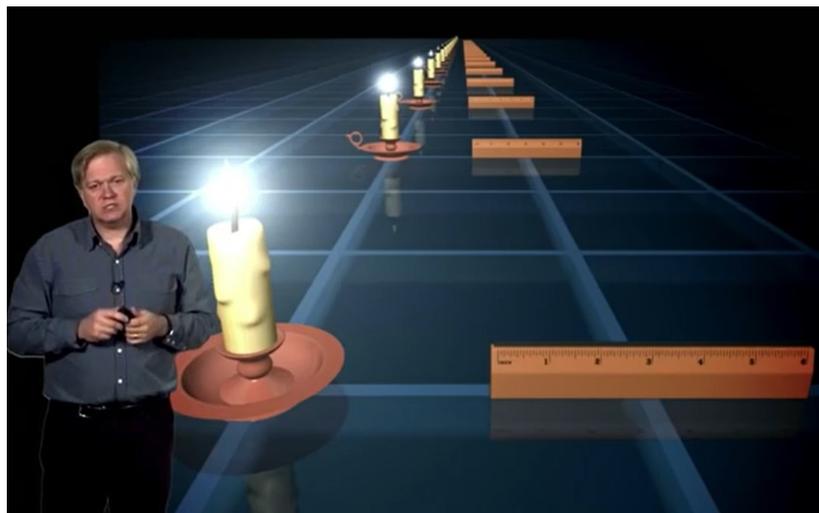


January, 2020

## February Meetings

The next MAS meeting will be held on **Friday, February 21<sup>st</sup>**, from 7 PM at the Observatory. This is going to be a combined Board/Membership meeting. During the first hour (the official Board meeting) organizational and Observatory related issues will be discussed. Every member is welcome to attend.

During the second half, starting at 8 PM will be watching a recorded presentation entitled: **The accelerating Universe**, followed by a discussion.



“In 1998 two teams traced back the expansion of the universe over billions of years and discovered that it was accelerating. It was a startling discovery that suggests that more than 70 percent of the cosmos is contained in a previously unknown form of matter, called Dark Energy. Brian Schmidt, leader of the High-Redshift Supernova Search Team, will describe this discovery and explains how astronomers have used observations to trace our universe's history back more than 13 billion years, leading them to ponder the ultimate fate of the cosmos. Brian's work on the accelerating universe was awarded the 2011 Nobel Prize in Physics, jointly with Adam Riess and Saul Perlmutter.”

Our **First Wednesday** How To Meeting will be on February 5<sup>th</sup> from 7:30 thru 9:00 PM. The agenda is open, just show up and ask any astronomy, Observatory, or telescope related question.

The **PixInsight Focus Group** will meet on Wednesday, February 12<sup>th</sup> at 7 PM. Gabe Shaughnessy will be leading the discussion that will cover the following topics:

- Deconvolution
- Narrowband combination
- Annotation
- Using StarNet to create star masks.

As always, the Observatory is open on Saturday nights, and also when posted on the Google Group.

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## Observatory Director Report

There has been the installation of a hot water heater in both of the restrooms now. Thank you again, Mike Wagner, for making this happen.

Donations, donations. First from Gene Hanson is a new finder for the C-Scope. It is an Explore Scientific 8x50 Straight-Through Correct Image Finder Scope. Also included is a tall finder bracket. Next, Lee Keith has donated several items to improve the use of the club's scopes. For safely finding the Sun Lee has provided Sol-Searchers for both A- and B-scope. Lee also gave us four Neutral Density filters, all four fit the 1 1/4" eye-pieces, two transmit 13% and two transmit 25% of the moon's light. Many thanks go out to both Lee and Gene!

Respectfully Submitted,  
Paul Borchardt, Observatory Director

## Treasurer's Report

<b>\$8,858.53</b>	<b>Starting Balance as of 12/20/2019</b>
	<b>Expenditures</b>
\$21.32	PayPal fees
\$42.83	Periodic expenses
\$160.00	Annual expenses
\$117.52	WE Energies
\$36.00	Water/Sewer
\$377.67	TOTAL Expenditures
	<b>Revenue</b>
\$500.00	Private donations
\$973.00	Membership dues
\$12.00	Grants
\$350.00	Calendars
\$1,835.00	TOTAL Revenue
<b>\$10,315.86</b>	<b>Ending Balance as of 01/15/2020</b>

Respectfully Submitted,  
Sue Timlin, Treasurer

## Membership Report

Since the last Report 60 memberships have expired, we received 1 renewal and 7 new applications. We welcome Benjamin Johnson, Ellen and Matt Bratz, Frank Wedel, George Domanos & Family, Clayton Clouse & Family, Matt Ryno & Family, and Daniel Wolter. The total number of active members is 146.

Respectfully Submitted,  
Jeff Kraehnke, Committee Chair

## Minutes

The meeting was held on January 17<sup>th</sup> at the MAS Observatory, New Berlin and was called to order at 7:03PM by Tamas Kriska President.

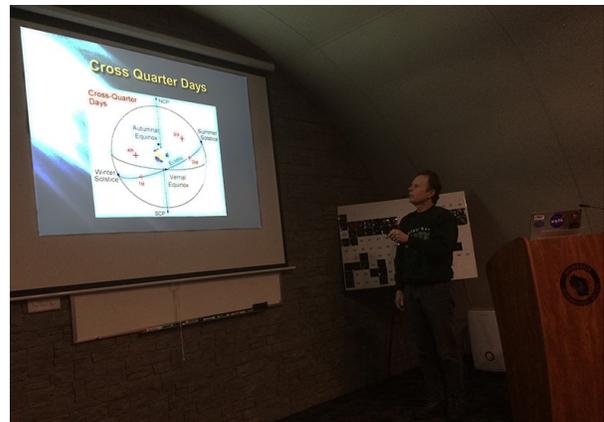
**Minutes, Treasurer's Report and Observatory Director's Report** electronically submitted ahead the meeting were approved. **Membership Committee Report:** membership applications of Matthew Gottsacker, Scott Mingilinio, Cory Tcheng, Janelle Litos, the Dendura Family, the Laurion Family, Ricky Downs, Alexander Johnson, Chaitra Shastry, Mike McAlister, the Birschel Family, the Nirmalajaran Family, the Bratz Family, and Benjamin Johnson were approved.

**Old Business – Solar camera:** The Grasshopper 3 camera works with Firecapture software. The final decision about the new camera purchase is tabled. **Snow plowing:** A person was hired to plow if the snow higher than 3" for \$60/event.

**New Business – Targeted donation ideas:** Update the website section. A motion was made and carried to use the \$250 personal donation from Diane Esser for supporting the Public Nights to make the Quonset entrance stairs safer. Anonymous personal donation of \$1000 for preservation, repair of the iconic domes might be used for painting the Z-dome. **UV filter:** \$250 were allocated to purchase a UV Venus filter. Paul is in charge of the purchase. **Public Nights:** The schedule submitted by the Open House Committee were discussed. Final decision next month.

A motion was made and carried to put the leftover money from the summer maintenance (\$368.84), and the Celestron 8" project (\$13.90) back to the general fund.

**Program –** Lee Keith gave a talk entitled "Halloween and other seasonal festivals: Cross Quarter Days and calendar".



The meeting was adjourned at 9:15.

Respectfully Submitted,  
Agnes Keszler, Secretary

## Birds Eye View of the Observatory

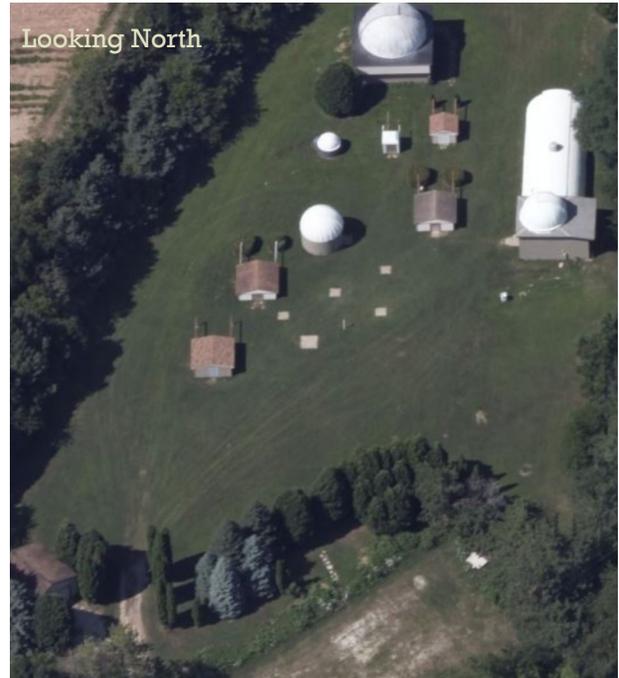
Bing's Birds Eye View images were always really good and the next best thing to a drone shot. Since the imagery I have of the observatory became pretty old I've been wondering if they would ever update their data. This Google image is dated probably between 2010-2011 as all three original flip-tops are there in front of the Z-dome.



I just checked yesterday Bing Maps and they've finally updated their Bird's Eye View maps! And the imagery is very recent - last year! Notice new Solar Observatory, Toeller Observatory and the new paneling on the Zit Observatory in the lower left corner.



But it gets better.



So sadly, the view looking North was taken first and before the new sign was erected! You can see the old sign just to the east of the parking lot. The new sign is there in all the other directions.

I've already updated the imagery in the Member Guide and the Observatory Manual.

by Gene Hanson

## In the Astronomical News

### Why The World Is Waiting For The Betelgeuse To Go Supernova

Betelgeuse is a star in the constellation Orion and is one of the brightest stars in the heavens. It has observably dimmed in recent months, a sign that some astronomers interpret as a warning that the star will explode in one of the most powerful and dramatic events in all of the cosmos -- a supernova.

Betelgeuse is in a class of star called a red supergiant. Red because it is much cooler than the sun and it is approximately 12 times more massive than the sun and, if it were to be located in our solar system, it would be bigger than the orbit of the asteroid belt and perhaps even engulf Jupiter.

Betelgeuse is only about 10 million years old -- compared to the sun's 4.5 billion -- but its days are numbered. Like all stars, Betelgeuse began its life by fusing hydrogen into helium, but its hydrogen supply has largely run out. It then began fusing helium into heavier elements, a transition that heated the core of the star and caused it to expand to its current enormous size.

Eventually stars run out of fuel and their cores are no longer hot enough to overcome the star's gravity. Their cores collapse; their internal temperatures spike to incredible levels and the star then explodes. That is how a star goes supernova. Betelgeuse is approaching this phase.

Witnessing this process is rare for humans. Roughly speaking, astronomers expect two supernovae per century in the Milky Way. In fact, the last supernova observed in the Milky Way galaxy was in the 17<sup>th</sup> century and was recorded by Johannes Kepler. We're overdue for another.

If Betelgeuse does go supernova, is there any danger to us here on Earth? The simple answer is no. The star is about 700 light-years away, which would attenuate the impact of the blast. High-energy light from the supernova will

bathe the Earth's ozone layer and it is possible that scientists will be able to see this effect, because a reduced ozone layer will result in increased ultraviolet radiation making it to the Earth's surface.

If Betelgeuse does go supernova, it will be the brightest star in the sky for many months. It will even be visible during the day.

Of course, it is unlikely that the recent dimming of the star is the most immediate precursor of a supernova. Betelgeuse has varied its

brightness for centuries and even perhaps has changed its color. Indeed, it is expected that a star in the last stages of using up all of its stellar fuel will undergo changes and the timescale for stellar evolution is much longer than human timescales. Astronomers predict that Betelgeuse will continue to burn through the last of its fuel for as many as 100,000 years. So, as exciting as the prospect of getting such



*Orion climbs the southeastern sky during evenings in late December and January. Bob King*

a close view of a supernova is for astronomers, this outcome is improbable during our lifetime. The last time terrestrial detectors monitored a supernova was in 1987, when a star in a smaller galaxy orbiting the Milky Way detonated. Betelgeuse's proximity and more than 30 years of improvements in detector technology will give vastly improved measurements. While the speculation of the impending death of Betelgeuse is probably premature, it is a captivating prospect to consider, both from a human and a scientific perspective. And, if we do see it, it might make young lovers reconsider their metaphors for permanent devotion as they compose their letters.

by Don Lincoln

Fermi National Accelerator Laboratory/  
CNN.com

## Adopt a Telescope Program - Signup Sheet

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

### At Your Service

#### Officers / Staff

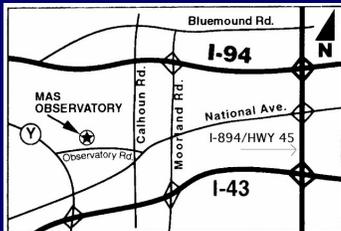
President	Tamas Kriska	414-581-3623
Vice President	Lee Keith	414-425-2331
Treasurer	Sue Timlin	414-460-4886
Secretary	Agnes Keszler	414-581-7031
Observatory Director	Paul Borchardt	262-781-0169
Asst. Observatory Director	Jeff Kraehnke	414-333-4656
Newsletter Editor	Tamas Kriska	414-581-3623
Webmaster	Gene Hanson	262-269-9576

#### Board of Directors

Jim Bakic	414-303-7765
Scott Berg	262-893-7268
Russ Blankenburg	262-938-0752
Clark Brizendine	414-305-2605
Jason Doyle	414-678-9110
John Hammetter	414-519-1958
Jeff Kraehnke	414-333-4656
Jim Schroeter	414-333-3679
Gabe Shaughnessy	262-893-4169
Steve Volp	414-751-8334
Mike Wagner	262-547-3321

#### February Keyholders

02/01	Tom Schmidtkunz	414-352-1674
02/08	Sue Timlin	414-460-4886
02/15	Jim Bakic	414-303-7765
02/22	Mike Bauer	262-894-1253
02/29	Russ Blankenburg	262-938-0752



### MAS Observatory

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New Berlin, WI 53146

[www.milwaukeeastro.org](http://www.milwaukeeastro.org)