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Annual Holiday Party

The Milwaukee Astronomical Society is organizing the 2016 Christmas Party on **Saturday, December 3rd, from 1:30 PM to 4:45 PM** in the New Berlin Public Library's Heritage Room. Address: 15105 W Library Lane, New Berlin, WI 53151.

As usual please bring your favorite dish to share. Pizza and soda will be served. Donation of \$5/person, or \$8/family is appreciated.

Please join us and bring along your family to celebrate together.

We wish all our Members Merry Christmas and a Happy New Year!

Calendar Fundraiser

The New Year is around the corner. Sale of the Astronomy Magazine's 2017 Deep Space Mysteries wall calendar will begin soon, and be announced also on the Google group.

We sell this calendar for \$10 while its retail price starts at \$12.50. It makes an ideal Christmas present, while you support the Society.



MAS Membership Renewal

We are in the third month of the Membership renewal period. Thank you everybody who already responded and renewed their memberships.

There are several renewal methods you can choose from. If you prefer to do it online just follow this link: www.milwaukeeastro.org/renew. The renewal form can also be printed out and send it back along with a check made payable to MAS.

If you are wondering whether you need to renew your MAS membership, simply look for your name on this list: <http://www.milwaukeeastro.org/membership/membersRenewed.asp>. If your name is there, you have already renewed.

Thank you for being a member of the Milwaukee Astronomical Society.

Observatory Report

Restoration of the interior of the Z-building is completed. Jeff Kraehnke and Tamas Kriska had their work cut out for them having to repair several square yards of flooring on the observing level of the building that had become damage by water. The plywood floor and the beams under the floor had become much rotted. Tamas also repaired by himself the walls in the same area that had become damaged by water. He spent many hours in the evening to complete this task. All of the work in the remodeling of the Z building was done by Tamas and Jeff, through their great effort and many hours of labor in performing this long overdue task the Z-building is looking better than it ever has.

The chains that open and close the Z-dome slit broke again this last month. Due to the age of the chain and the increase of breaks, a new set of chains have been purchased but not yet installed. I am looking to having this repair completed in the next week. (to be continued on page 3.)

Treasurer's Report

\$13,056.50	Starting Balance as of 9/14/2016
	Expenditures
-\$60.00	Change
\$115.00	Fire exting. service
\$19.31	PayPal fees
\$65.00	Monitor and counter
\$234.71	Z-dome chain
\$33.15	Public night prizes
\$66.84	WE Energies
\$39.45	Solar Observatory
\$7,675.64	Quonset project
\$36.00	Water/sewer
\$253.86	Solar and Quonset
\$8,759.30	TOTAL Expenditures
	Revenue
\$405.20	Donations
\$1,190.00	Equipment sales
\$1,272.00	Membership dues
\$2,000.00	Protective withdrawal
\$320.00	Public Night
\$5,187.20	TOTAL Revenue
\$9,480.40	Ending Balance as of 10/19/2016

Respectfully Submitted,
Sue Timlin, Treasurer

Meeting Minutes

Held on October 21st at the Observatory. The meeting was called to order at 7:04 PM by President, Tamas Kriska.

Minutes, Treasurer's Report, Observatory Director's Report, and the **Membership Report** were submitted electronically.

Old Business -

Solar Observatory: The new O-rings did not work, the faulty second etalon was sent back to manufacturer under warranty. The base of the building has been resealed and watertight, but still leaking from the dome. The owner of Sky-Shed company was contacted.

G-scope: The new CP4 electronic panel will be ordered soon. The declination drive will also be updated. Gene volunteered to pay for that (\$800). Broken chain in the Z-dome will be replaced.

Quonset Hut remodeling: The remodeling has been started, old panels and floor were removed. Some electric work also was completed. New floor base will be installed during the coming weekend. Help is needed. The ordered materials and the scheduled furnace installation consumed the raised fund (\$12,000 without the 26" mirror). Motion was made and carried to allocate \$10,000 from the Endowment Fund to cover insulation (\$4420) and additional expenses. The fund-raising will be continued, and there are still items on the selling list

New Business - Sue Timlin will contact the New Berlin library to host the November meeting, potentially on the second Wednesday of the month. Gene Hanson was awarded with the 2016 Webmaster Award of the Astronomical League for the best club's website.

Program – Tamas Kriska gave a presentation entitled: Everything about Charles Messier and his objects.

The meeting was adjourned at 9:35PM.

Respectfully Submitted,
Agnes Keszler, Secretary

Membership Report

Since the last Report we received seven renewals and four new membership applications and would like to welcome Thomas Clark, Eric Zepezaure & Family, James Lanser, Dale Socher & Family, Holly Mrozak, and Bill Clarke. We now have 134 active members.

Respectfully Submitted,
Jeff Kraehnke, Committee Chair

Observatory Director's Report (continued from page 2)

The vintage Criterion Dynamax 8 telescope that was donated to the society has been sold for \$200. And another \$490 in used astronomical equipment from the Society has been sold in the last month. There are still more pieces of equipment at the observatory to be sold. Several ads for this equipment are continuing to be run on the internet. As they sell more items are listed. On October 8th work began on the remodeling of the Quonset building. There was a good size crew of members on hand that day to get the work started. Work was continued the next day and the following weekend by a smaller crew. At this point all of the removal of the old interior, walls and flooring, have been completed. The debris has been loaded into a large dumpster in the parking lot. Plans are to start installing the new floor this coming weekend. Members have been asked to show up on both days of the weekend to work on this immense project. This month's board and general meetings will be held in the control room in Z- building. Members of the board of directors are looking into other options for a meeting location.

The Society received notice from the Environmental Health Division of Waukesha County on October 11th that the septic tank on the property needs to be cleaned and inspected within 30 days of the receipt of the notice. I have set up an appointment with the Walter Stanley Company for October 26th to do the work.

Unfortunately, the county has no records of the location of the tank on the property, so it is up to us to find the location of the access lid to the septic tank and prepare for the cleaning by removing the dirt covering it. This cleaning must be performed every three years as mandated by the State of Wisconsin so plans are to have the tank lid raised to ground level to make future access easier.

The base of the Solar Scope Dome has been resealed and no rain water is getting into the dome from there. But unfortunately the dome itself is still leaking. Sky Sheds, the manufacturer of the dome has been contacted, they want photos of the dome and the seals installed on it so that they can help determine where the rain water is entering the dome and give us suggestions about what we should do to stop the leaks. New O-rings did not fix the leaking of pressure in the second etalon on the Lunt solar scope. So the etalon has been removed from the scope and sent back to Lunt for the needed repairs. There will be no charge for the repair since the scope is under warranty for the first year we own it. The people at Lunt said would be getting on the repair as soon as the etalon arrives and should be returning the etalon as soon as possible. In the meantime, the scope is useable with just the one etalon that is built into the scope.

Respectfully Submitted,
Paul Borchardt, Observatory Director



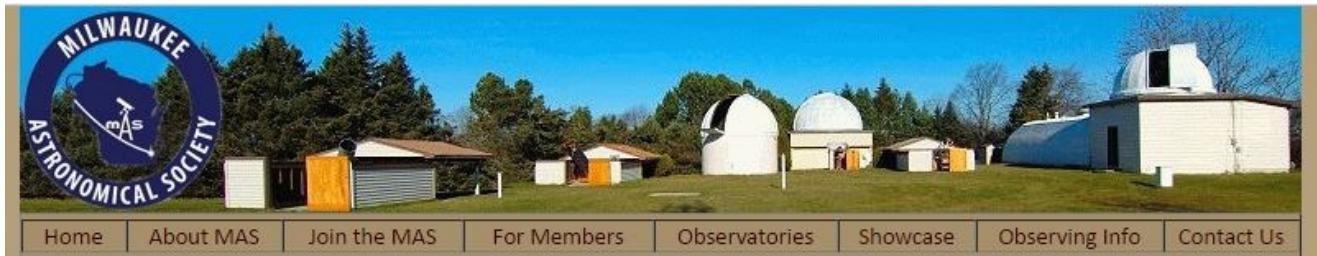
A Super Moon Tour

On November 14th at the MAS Observatory under the bright glow of the full Super moon, Hamilton Greenwood surprises his girlfriend Amanda Armitage with his proposal for marriage. Hamilton and Amanda came to the Observatory that night for what Amanda thought was just a private tour at the MAS to observe the Super Moon and other astronomical gems. Observatory Director Paul Borchardt conducting the "tour" conveniently slipped out of the dome after placing the "will you marry me" sign up on the B-scope, before returning to finish the couples guided tour.

When Amanda climbed the ladder to look through the telescope she found a sign attached asking for her hand in marriage. She screamed yes, yes, yes, and Hamilton finished off the proposal by putting a gem of his own on Amanda's ring finger.

Observatory News

Gene Hanson wins the 2016 Astronomy League Webmaster Award



In 2003 the Astronomical League Board established the Webmaster Award to be handed out annually to the Webmaster with the best club's website. With the increasing popularity of the internet, the website is an important asset to astronomical clubs. The purpose of the award is to acknowledge the club webmaster who does an outstanding job of website design and administration. The website is judged based on its content, easiness of navigation, and ability to attract people.

We are happy to announce that the 2016 winner of the AL Webmaster Award is Gene Hanson. Gene has been the MAS' webmaster since 2013. He completely redesign the website and built-in a variety of features that made it user friendly. Gene also introduced the online membership application and renewal process that greatly contributed to the dramatic increase in the membership.

CONGRATULATION GENE!



Observatory News

The Quonset Hut Remodeling

Since October 8th a number of committed members have been spending their weekends on the Hill. Thanks to the enthusiasm and the mild weather we made a huge progress. The old wall and floor panels were removed, the floor supporting beams were repaired, new plywood flooring was installed, the furnace was relocated to the southwest corner. The

ceiling vents were removed and the outer shell was repaired. The Quonset became watertight when a spray foam insulation was installed. Electrical rewiring of the Quonset and the A building was also moving forward. Our expectation is that the new furnace and insulation will allow us to continue the work during the winter months.



In the Astronomical News

The Universe is Expanding at an Accelerating Rate, or is it?

Five years ago, the Nobel Prize in Physics was awarded to three astronomers for their discovery, in the late 1990s, that the universe is expanding at an accelerating pace. Their conclusions were based on analysis of Type Ia supernovae picked up by the Hubble space telescope and large ground-based telescopes. It led to the widespread acceptance of the idea that the universe is dominated by a mysterious substance named 'dark energy' that drives this accelerating expansion. Now, a team of scientists led by Professor Subir Sarkar of Oxford University's Department of Physics has cast doubt on this standard cosmological concept. Making use of a vastly increased data set -- a catalogue of 740 Type Ia supernovae, more than ten times the original sample size -- the researchers have found that the evidence for acceleration may be flimsier than previously thought, with the data being consistent with a constant rate of expansion.

Professor Sarkar, who also holds a position at the Niels Bohr Institute in Copenhagen, said: "The discovery of the accelerating expansion of the universe won the Nobel Prize, the Gruber Cosmology Prize, and the Breakthrough Prize in Fundamental Physics. It led to the widespread acceptance of the idea that the universe is dominated by 'dark energy' that behaves like a cosmological constant -- this is now the 'standard model' of cosmology. However, there now exists a much bigger database of supernovae on which to perform rigorous and detailed statistical analyses. We analyzed the latest catalogue of 740 Type Ia supernovae -- over ten times bigger than the original samples on which the discovery claim was based -- and found that the evidence for accelerated expansion is, at most, what physicists call '3 sigma'. This is far short of the '5 sigma' standard required to claim a discovery of fundamental significance."



The universe may not be expanding at an accelerating but rather at a constant rate, suggests new research.

Credit: © watoson/Fotolia

There is other data available that appears to support the idea of an accelerating universe, such as information on the cosmic microwave background from the Planck satellite. However, Professor Sarkar said: "All of these tests are indirect, carried out in the framework of an assumed model, and the cosmic microwave background is not directly affected by dark energy. Actually, there is indeed a subtle effect, the late-integrated Sachs-Wolfe effect, but this has not been convincingly detected. So it is quite possible that we are being misled and that the apparent manifestation of dark energy is a consequence of analyzing the data in an oversimplified theoretical model -- one that was in fact constructed in the 1930s, long before there was any real data. A more sophisticated theoretical framework accounting for the observation that the universe is not exactly homogeneous and that its matter content may not behave as an ideal gas -- two key assumptions of standard cosmology -- may well be able to account for all observations without requiring dark energy. Indeed,

vacuum energy is something of which we have absolutely no understanding in fundamental theory."

"Naturally, a lot of work will be necessary to convince the physics community of this, but the work serves to demonstrate that a key pillar of the standard cosmological model is rather shaky. Hopefully this will motivate better analyses of cosmological data, as well as inspiring theorists to investigate more nuanced cosmological models. Significant progress will be made when the European Extremely Large Telescope makes observations with an ultrasensitive 'laser comb' to directly measure over a ten to 15-year period whether the expansion rate is indeed accelerating."

by University of Oxford

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 Mike Smiley	18" F/4.5 Obsession	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 Herman Restrepo/Matt Mattioli	8" F/11 Celestron EdgeHD	Ray Zit Observatory
8 Tamas Kriska	14" F/1.9 F-scope	Jim Toeller Observatory
9 Paul Borchardt	Solar scope	SkyShed POD

At Your Service

Officers / Staff

President	Tamas Kriska	414-581-3623
Vice President	Sue Timlin	414-460-4886
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



MAS Observatory

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Board of Directors

Paul Borchardt	262-781-0169
Robert Burgess	920-559-7472
Clark Brizendine	414-305-2605
Steve Volp	414-751-8334
John Hammetter	414-519-1958
Lee Keith	414-425-2331
Frank Kenney	414-510-3507
Jeff Kraehnke	414-333-4656
Agnes Keszler	414-581-7031
Tamas Kriska	414-581-3623
Sue Timlin	414-460-4886

October/November Keyholders

11/19 Jeff Kraehnke	414-333-4656
11/26 Tamas Kriska	414-581-3623
12/03 Jill Roberts	414-587-9422
12/10 Tom Schmidtkunz	414-352-1674
12/17 Mike Smiley	262-825-3981
12/24 No Keyholder	Merry Christmas!