December, 2015

The Year 2015

As the New Year is around the corner, it is that time again when we summarize the highlights of the past twelve months.

Huge progress was made in equipment modernization as well as in maintenance work thanks to Scott Jamieson. The Club's imaging capabilities were dramatically improved by finishing the installation and fine tuning of the two 14" telescopes. The Z-scope was replaced by a newly purchased 14" Celestron Edge HD telescope mounted on the Astrophysics GT0900 goto mount donated by Gene Hanson (G-scope). The original Z-scope, which was taken down, now is on display inside the dome. The other Celestron 14" scope (F-scope) has been converted to widefield imager by adding a HyperStar lens. It uses a newly purchased Canon T5 DSLR camera that has been modified for astrophotography.

This new setup also required a new observatory. Thanks to the enthusiasm and energy of many members and Jeff Kraehnke's leadership the old Toeller building was replaced by a much bigger roll-off shed. This was the first new observatory built in more than a decade. Also, during the summer the Z dome and the back garage were re-roofed.

The MAS website was further improved, resulting in a steady increase of new membership applications. So far 27 new members joined this year. Now the number of active members is exceeding 100. Steve Volp and Gene Hanson launched a new showcase section dedicated for Messier objects imaged by MAS members (see page 5).

Three new Directors joined the Board during the year. Frank Kenney and Jeff Kraehnke were elected to the Board during the Annual Business Meeting in May, while Paul Borchardt filled an empty place in September. Jeff Kraehnke was also appointed Assistant Observatory Director. In the end of August Scott Jamieson resigned from his position as President, and in November the Board elected Tamas Kriska as new President. Brian Ganiere and Gene Hanson were elected Founding Members to honor their dedicated work and generous contributions to the Club. The G-scope was officially named in honor of Gene Hanson (see an article on page 3.).

Out of seven Public Nights the first four were held under clouds and rain. The bad weather did also interfere with the annual Yerkes Star Party in August. However, for the end of the season our luck has turned around. Especially the Public Night for total lunar eclipse was attended beyond expectations. Just like in previous years, Paul Borchardt coordinated observatory tours for Boy Scouts, college students, and for the New Berlin Library during the spring and summer. As an important part of our public outreach Gene Hanson gave talks to different organizations (see page 2).

Four astronomers were invited as guest-speakers on our membership meetings. Michelle Thaller's visit drew by far the biggest crowd. She is the Assistant Director of Science for Communication, NASA Goddard Space Flight Center.

We organized a Summer Picnic in July, and a Christmas party in early December, both with many participants.

As always, the Focal Point Newsletter will keep the membership posted on the MAS events and programs in 2016.

We wish you and your families Merry Christmas and a Happy New Year.

Inside this issue:

Observatory Report

The new Toeller Observatory is complete with the F-scope installed and operational. My compliments to Jeff Kraehnke and all of the people who spent a lot of time making this a reality. Details including pictures are in the November Focal Point.

The A-scope is now back in commission. My thanks to Paul Borchardt for his work.

On the night of October 23rd, I made several presentations at the American Science and Surplus store at 69th and Oklahoma for their Spooky Science Night event that corresponded with Halloween. It was well attended beyond my wildest expectations. The presentations I chose were on the planets, and between sessions I talked to dozens of interested kids and their parents. The owner would like the MAS us to give presentations like this in the future and have brochures available to pass out to the public at their telescope display.

Respectfully Submitted,
Gene Hanson, Observatory Director

Treasurer's Report

$4,199.57	***Ending Balance as of 10/14/2015***
	Expenditures
$83.51	WE Energies
$44.37	G-computer video card
$12.37	PayPal Fees
$197.15	F-scope computer
$2,266.62	F-scope hardware
$517.00	Foremost Insurance
$60.00	Overpayment
-$3,365.01	TOTAL Expenditures
	Revenue
$150.00	Key Deposits
$648.00	Membership Dues
$798.00	TOTAL Revenue
$1,632.56	***Ending Balance as of 11/18/2015***

Respectfully Submitted,
Dennis Roscoe, Treasurer

Meeting Minutes

Held on November 20th at the MAS Observatory, New Berlin. The meeting was called to order at 8:03 PM by President, Tamas Kriska.

Minutes of the previous meeting, **Treasurer's Report**, **Observatory Director's Report**, and the **Membership Report** were submitted electronically in advance (see this page), therefore were not read.

Old Business - The discussion about the insurance coverage has been continued. The Board will re-evaluate the Club's insurance policy for the next period. We will donate $200 to the Retzer Nature Center where the winter meetings will be held.

New Business - Nominations for presidency arrived: Paul Borchardt, Tamas Kriska, and Sue Timlin. The Board elected Tamas Kriska as the new President of the MAS. Jeff Kraehnke was appointed as the new Membership Committee Chair. Brian Ganiere is collecting quotations for tree removal, and looking for way to remove the old oil tank behind the Quonset hut.

The Program - Matthew Brinson, a graduate student at UWM, Physics Department gave presentation entitled "Relic gravitation waves: Echoes from the big bang".

The meeting was adjourned at 9:05 PM.

Respectfully Submitted,
Agnes Keszler, Secretary

Membership Report

Since the October Report we received 4 new applications. Memberships of Ronald Zoltowski, Michelle Miller, Nathan & Shannon Braun, and Katie Korth were approved. Katie's student membership was covered by the Michelle Thaller fellowship. We now have 104 members. Since buying MAS membership as a gift became popular lately, Gene Hanson will put a special application form on the website.

Respectfully Submitted,
Jeff Kraehnke, Committee Chair

Observatory News

G-Scope Dedication Ceremony

On November 20th, between the Board and Membership Meetings we had a Dedication Ceremony led by Scott Jamieson where the new 14" Celestron Edge telescope mounted on an Astrophysics GTO900 mount (informally called G-scope) was officially named in honor of Gene Hanson.

Gene joined the MAS in April of 1977 and he has been a devoted member ever since. He participated in the construction of the Z dome, ran variable star projects, and he was always an active observer. His activity was recognized with numerous awards, such as Director's Award by the AAVSO in 1998, Observer's Award by AAVSO in 2001, Leslie C. Peltier Award by the Astronomical League in 2002.

After spending decades in Arizona, Gene returned to Milwaukee in 2013. In the same year he was elected in the Board of Directors, and appointed as Observatory Director. He also rejuvenated the MAS website and made the membership application and renewal processes possible on-line. He had lion share in building the G- and F-scopes, by generous donations of equipment and funds.

Gene became a founding member of the Club in May of this year.

The 2015 ChristMAS Party

Some photos from our annual Holiday Party on Saturday, December 5th. The event was well attended with 30 members/family.

Everybody enjoyed the great food, awesome raffle prizes, and each other's fellowship.

Announcements

Telescope for Sale

An 11" Celestron, Star Bright XLT, F10 optical tube assembly is for sale by a MAS member Raymond Horvath. It comes with a HyperStar unit that has adapters for Canon, QHYPro, and Atik cameras and a manually operated Feather Touch focuser. The scope has the Losmandy dovetail mount plate. It is 4-5 years old. The original investment was about $3300, he asks half of that.

If you are interested please contact Raymond at 414-421-2787 or rdhorv@wi.rr.com.

Speaker Wanted for Elementary School Science Day

The Co-President of the PTA at Eisenhower Elementary School in Wauwatosa and also the High Interest Day committee chair contacted us with a request for a speaker on the topic of Astronomy. HID is a wonderful opportunity for the students to experience new subjects and activities as they attend sessions presented by family members, volunteers, community members and professionals. The 2016 event is scheduled for Thursday, March 24th. There will be five 45 minute sessions. Presenters have the option of doing just one, some, or all of them. The school is located at 11600 West Center St. Wauwatosa, WI 53222. If you are interested please contact Robert Burgess at robdayburgess@gmail.com by January 15th.

Images Wanted for the Messier Showcase

There is a special area on the website that showcases the power of the Observatory equipment in gathering images. A project to exhibit images of all 110 Messier objects from our observatory location begun in Sept 2015 and it will take at least a full year to complete.

When we have at least one image for an object we will create a webpage for it and the link will be on the right side. This does not mean that other images of the same object can not be submitted - in fact - we want more than one image of each object. All images are welcome and will be added to the pages as long as they are of adequate quality. As we mentioned, this is a showcase of both members talents and MAS equipment capabilities.

To submit images to this showcase use the same procedure as for our normal showcase. It's as easy as emailing them to:

showcase@milwaukeeastro.org

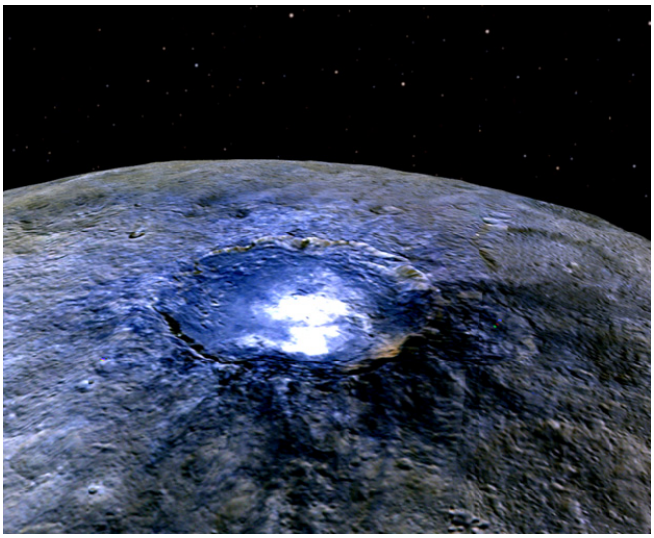
When submitting images, please provide enough information so others can attempt similar exposures.

It is never too late to learn how to use the MAS equipment and participate in this exciting project. Visit the Observatory or ask for help through the Google Group.

In the Astronomical News

New Clues to Ceres' Bright Spots and Origins

Ceres reveals some of its well-kept secrets in two new studies in the journal Nature, thanks to data from NASA's Dawn spacecraft. They include highly anticipated insights about mysterious bright features found all over the dwarf planet's surface. In one study, scientists identify this bright material as a kind of salt. The second study suggests the detection of ammonia-rich clays, raising questions about how Ceres formed. Ceres has more than 130 bright areas, and most of them are associated with impact craters. Study authors write that the bright material is consistent with a type of magnesium sulfate called hexahydrite. A different type of magnesium sulfate is familiar on Earth as Epsom salt. They suggest that these salt-rich areas were left behind when water-ice sublimated in the past. Impacts from asteroids would have unearthed the mixture of ice and salt, they say. The surface of Ceres, whose average diameter is 584 miles (940 kilometers), is generally dark -- similar in brightness to fresh asphalt -- study authors wrote. The bright patches that pepper the surface represent a large range of brightness, with the brightest areas reflecting about 50 percent of sunlight shining on the area. But there has not been unambiguous detection of water ice on Ceres; higher-resolution data are needed to settle this question. The inner portion of a crater called Occator contains the brightest material on Ceres. With its sharp rim and walls, and abundant terraces and landslide deposits, Occator appears to be among the youngest features on Ceres, about 78 million years old.



In the second Nature study, members of the Dawn science team examined the composition of Ceres and found evidence for ammonia-rich clays. They used data from the visible and infrared mapping spectrometer, a device that looks at how various wavelengths of light are reflected by the surface, allowing minerals to be identified. Ammonia ice by itself would evaporate on Ceres today, because the dwarf planet is too warm. However, ammonia molecules could be stable if present in combination with (i.e. chemically bonded to) other minerals. The presence of ammoniated compounds raises the possibility that Ceres did not originate in the main asteroid belt between Mars and Jupiter, where it currently resides, but instead might have formed in the outer solar system. Another idea is that Ceres formed close to its present position, incorporating materials that drifted in from the outer solar system – near the orbit of Neptune.

In comparing the spectrum of reflected light from Ceres to meteorites, scientists found some similarities. Specifically, they focused on the spectra, or chemical fingerprints, of carbonaceous chondrites, a type of carbon-rich meteorite thought to be relevant analogues for the dwarf planet. But these are not good matches for all wavelengths that the instrument sampled, the team found. In particular, there were distinctive absorption bands, matching mixtures containing ammoniated minerals, associated with wavelengths that can't be observed from Earth-based telescopes.

The study also shows that daytime surface temperatures on Ceres span from minus 136 degrees to minus 28 degrees Fahrenheit (180 to 240 Kelvin). The maximum temperatures were measured in the equatorial region. The temperatures at and near the equator are generally too high to support ice at the surface for a long time, study authors say, but data from Dawn's next orbit will reveal more details. As of this week, Dawn has reached its final orbital altitude at Ceres, about 240 miles (385 kilometers) from the surface of the dwarf planet. In mid-December, Dawn will begin taking observations from this orbit, including images at a resolution of 120 feet (35 meters) per pixel, infrared, gamma ray and neutron spectra, and high-resolution gravity data.

Elizabeth Landau

NASA's Jet Propulsion Laboratory, Pasadena, CA

Adopt a Telescope Program - Signup Sheet

	Adoptee	Scope	Location
1	Sue Timlin	18" F/4.5 Obsession	Wiesen Observatory
2	Neil Simmons	12.5" F/7.4 Buckstaff	B Dome
3	Russell Chabot	12.5" F/9 Halbach	A Dome (Armfield)
4	Dan Yanko	18" F/4.5 Obsession (Kyle Baron)	Albrecht Observatory
5	Tamas Kriska	14" F/11 Celestron (Gene Hanson)	Z Dome
6	Henry Gerner	12" LX 200	Tangney Observatory
7	Vacant	8" Celestron	Ray Zit Observatory
8	Vacant	14" F/2 Celestron	Jim Toeller Observatory

At Your Service

Officers / Staff

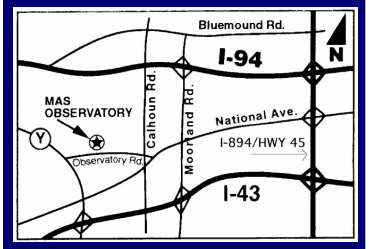
President	Tamas Kriska	414-581-3623
Vice President	Sue Timlin	414-460-4886
Treasurer	Dennis Roscoe	608-206-0909
Secretary	Agnes Keszler	414-581-7031
Observatory Director	Gene Hanson	262-354-0138
Asst. Observatory Director	Jill Roberts	414-587-9422
Asst. Observatory Director	Jeff Kraehnke	414-333-4656
Newsletter Editor	Tamas Kriska	414-581-3623
Webmaster	Robert Burgess	920-559-7472

Board of Directors

Paul Borchardt	262-781-0169
Robert Burgess	920-559-7472
Russell Chabot	414-881-3822
John Hammetter	414-519-1958
Gene Hanson	262-354-0138
Lee Keith	414-425-2331
Frank Kenney	414-510-3507
Agnes Keszler	414-581-7031
Jeff Kraehnke	414-333-4656
Tamas Kriska	414-581-3623
Sue Timlin	414-460-4886

December/January Keyholders

12/19	Tamas Kriska	414-581-3623
12/26	Mike Smiley	262-825-3981
1/2	Tom Schmidtkunz	414-352-1674
1/9	Dan Yanko	262-255-3482
1/16	Brian Ganiere	414-961-8745
1/23	Scott Berg	262-893-7268



MAS Observatory

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www.milwaukeeastro.org