September, 2015

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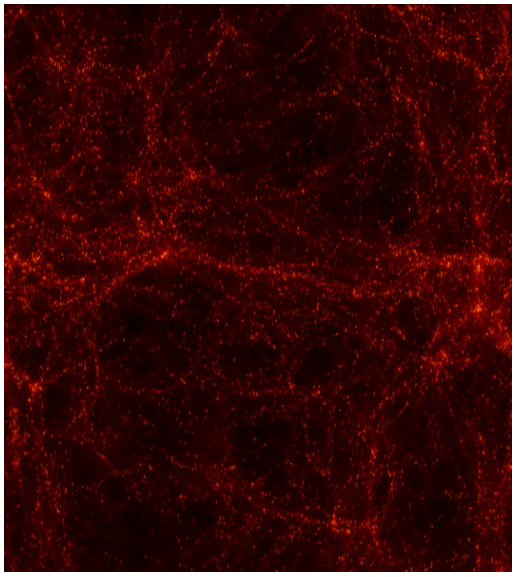
Membership Meeting on September 18th

The summer is over, we are back to our regular schedule having Membership Meetings on the third Friday of each month. The first one will be on September 18th at 8:00PM at the Observatory. The speaker of the night will be **Astrid Lamberts**, a Postdoctoral Research Associate at the Center for Gravitation, Cosmology, and Astrophysics of the Physics Department, UWM. Astrid will give a presentation entitled: "**Playing hide-and-seek with the intergalactic medium"** .

By definition, the intergalactic medium is all the gas that does not belong to galaxies. It constitutes the vast majority of the gas in our Universe, and is the reservoir for galaxy and star formation. As such, it is a fundamental ingredient of the Universe. Unfortunately, it is invisible to the naked eye and hard to detect even with the most advanced telescopes. On top of advanced observing techniques, researches mostly rely on computer simulations to study the structure of the intergalactic medium. They show that the intergalactic medium forms sheets, filaments and dense blobs, in a structure that we usually call "the cosmic web". In this presentation I will talk about what we have discovered so far and how we hope to make further progress.



Next Public Night on Sunday, September 27th

On Sunday, September 27th between 8:07 and 11:27 PM a **Total Lunar Eclipse** will be visible from Milwaukee. Herman Restrepo will give a presentation on the moon, starting with mythologies about the moon, then moving to the basic science of the moon and eclipses. We will collect a parking donation of $5/vehicle. The event will be held in rain, shine, and starlight. The kind help of MAS members during the night is encouraged and highly appreciated.

MAS Membership Renewal

Thank you everybody who responded to the initial renewal notice. However, we still need to hear from many more members. Please, if you have not done it yet, take a little time and renew your membership. Several options are available: online by following this link: www.milwaukeeastro.org/renew. The renewal form was also sent out attached to a Renewal Notice email. Print it out and send it back along with a check made payable to The Milwaukee Astronomical Society. If you joined the Club after January 1st, 2015 do not take any action, your membership is active till the next renewal period.

Observatory Report

Great progress has been made on the new 14" Celestron Edge telescope that we have given the informal name of G Scope. The older Celestron 14" we're now referring to as the F Scope because it is now in a "fast" configuration because of the Hyperstar.

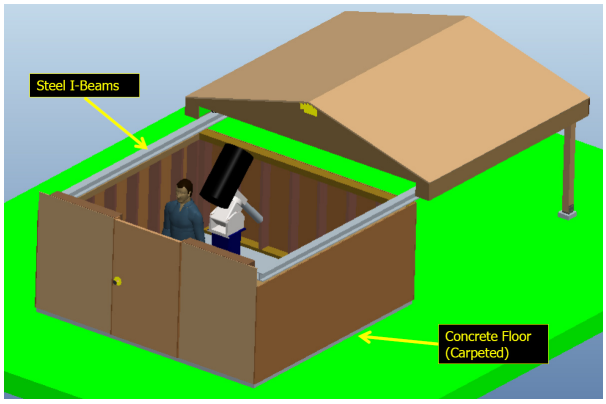
Dennis Roscoe updated all the software in the computer that will control the G Scope and had a lengthy call with Astrophysics about the GTO900 mount. They were quite taken by our ingenuity and Dennis supplied them with a picture of our setup. On July 25th, we met at the observatory to test all the new and updated software starting with confirmation that the firmware in the GTO900 was current which it was. Long story short: everything worked! We did some quick test imaging and started the process of setting up the autofocus. We also determined there is a better park position for the scope.

The loose cords where problematic so Scott has tied them properly and incased most of them in a conduit. Finally, he addressed the telescope attachment issue by putting a pair of straps securing the telescope to the mount. These straps are rated at 800 pounds!

We had a very successful Scout tour of the observatory on August 3rd with clear skies so

we had some viewing. The Yerkes event was again clouded out as well as our Open House this past Friday. But we had a very good turnout given the 0% chance of clear enough skies. Hopefully, the next public night on August 21st will finally have clear weather. So far this year we're 0 for 4. And we have another tour set for August 23rd or 24th. Details can be found on the calendar on our website.

Finally, we continued our discussions about building another observatory for the 14" Celestron F-scope.



Respectfully Submitted,
Gene Hanson, Observatory Director

Treasurer's Report

$1,630.48	***Ending Balance as of 7/10/2015***
	Expenditures
$67.07	WE Energies
$1.87	PayPal Fees
$467.00	Foremost Insurance
$191.98	FocusMax4 software
$13.68	Lawnmower gas
-$741.60	TOTAL Expenditures
	Revenue
$100.00	Tour donations
$54.00	Membership Dues
$154.00	TOTAL Revenue
$1,042.88	***Ending Balance as of 8/6/2015***

Respectfully Submitted,
Dennis Roscoe, Treasurer

Membership Report

Since the July Membership Report Tim Rohr and Family joined the MAS.

We now have 90 members.

Respectfully Submitted,
Tamas Kriska, Committee Chair

MAS News

President's Resignation

As some of you know, I intended to resign as President last May because a new generation of leaders was forming in the club and I felt like it would be in good hands. I still feel that way and feel it is time that I stepped down as President effective immediately. I only stayed this long to complete the new telescope in Z dome because it would give us greatly increased capability and I hoped it would help break some of the limits imposed by having to live with everything that was done in the distant past. For me this was a three year project that took a lot out of me and I knew that I should step down.

I am quite pleased that the new home for the C 14 is underway and I am sure it will be a fine observatory. I have a few projects related to safety on the grounds that I had started and will be finishing those within the next few weeks.

While you are watching the total Lunar eclipse this month, I will be celebrating my 68th birthday and planning a fairly extensive period of traveling in the next couple of years. Barbara and I have been planning this for some time and we decided not to put it off another year. In addition, our daughters' family has moved to Stevens Point and we are considering moving there within the next couple of years.

I have been considering my resignation for a couple of months and regret that I am not able to complete my term but feel the need to concentrate on my own life for now. Eight years of leadership is long enough to make a difference and I take some pleasure in the fact that membership is up and we have a lot of new capability. I hope I have done reasonably well and have enjoyed this position greatly. I greatly treasure the friends I have made and hope they will forgive me for moving on.

So, change is inevitable and good for any organization and I look forward to the continuing success of the MAS.

Thank you for the fond memories.

Scott Jamieson - Former President of the Milwaukee Astronomical Society.

The Board of Directors wants to express its congratulations to Scott for the exceptional contributions he has made to our club throughout his time as a member with many of those years serving as our President.

Scott joined the MAS in 1992.
In May '94 appointed to the Board before being elected.
Elected Vice-President in 1996.
Elected President in May of 1998 and served until May of 2004 and then again from May of 2013 until now.
Elected Founder Member in 2005.

During his presidency, the following happened at the observatory:

- The construction of the three roll-off roof observatories (Albrecht – C Shed, D Shed, and the Zit Observatory)
- Albrecht: installation of a 10" clock driven equatorial and then a few years ago replacement with a second 18" Obsession.
- Zit: installation of a 14" clock driven equatorial and then replaced last year with an 8" GOTO Celestron and a 14" Celestron.
- The construction of the Tangney Observatory and installation of a 12" Meade LX-200 remotely operated from Z building.
- The acquisition of three cooled CCD imagers, an ST-6 and two ST-9E's. In 2013 a STT-8300 CCD imager.
- The conversion of the 25" Z scope to a computer controlled scope.
- The acquisition and installing of PCs in all domed observatories.
- Extensive maintenance of A, B and Z scopes and domes.
- Extensive site rework including the removal of obsolete facilities.
- Conversion of the Z Scope from an f/15 visual instrument to a f/3.3 imaging scope. Though some may view this as a failure, it was important that we give it a try to save that instrument and Scott did everything he could to make it a success. We feel it made the decision to dissemble the Z Scope much easier.
- Disassembly of the Z Scope for the installation of a new telescope
- Installation of a 14" Celestron EdgeHD on an Astro-Physics mount.

Scott has also made enumerable equipment donations through the years.

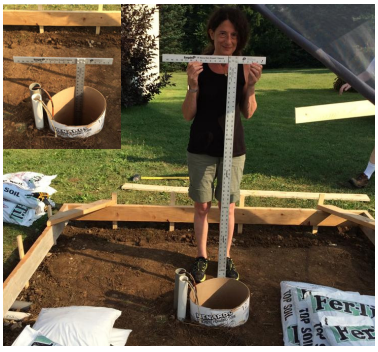
Observatory News

Rebuilding the Toeller Observatory

The Board of Directors has supported Scott Jamieson's idea to rebuild the small flip top building known as Toeller Observatory into a 8'x8' roll off shed to house the old 14" Celestron equipped with HyperStar. The 10" LX200 from the old building that had very limited use in

recent years will be placed to the Zit Observatory next to the 8" Celestron to be used for visual observation.

The advantage of this plan is that all the communication and power lines to Z-dome are readily available. The work started on the Labor Day weekend of September 5-6. The boundaries were laid out, then holes dug for the concrete floor and pier. The hole for the isolated pier went down 40" deep. PVC pipes carrying communication cables were extended to reach the gap between the pier and the floor.



Temperature climbed to high eighties on both days, but a canopy over the work site and two fans

saved the day. By early Sunday afternoon the site was ready to spread gravels and pour the concrete.

Thanks to everybody who helped, and to the two monster machines - the earth auger and the concrete mixer we rented - we managed to complete the first phase. The floor is ready to accommodate the building.

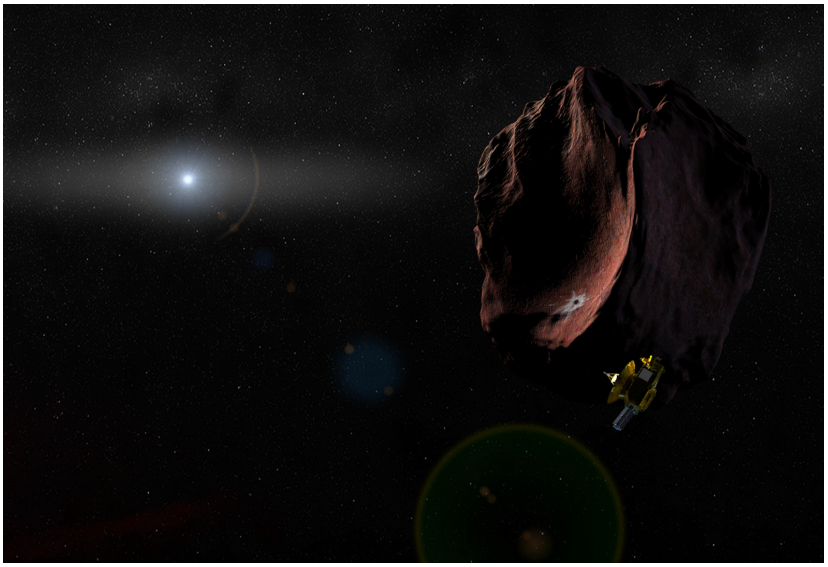
In the Astronomical News

NASA's New Horizons Team Selects Potential Kuiper Belt Flyby Target

NASA has selected the potential next destination for the New Horizons mission to visit after its historic July 14 flyby of the Pluto system. The destination is a small Kuiper Belt object (KBO) known as 2014 MU69 that orbits nearly a billion miles beyond Pluto.

This remote KBO was one of two identified as potential destinations and the one recommended to NASA by the New Horizons team. Although NASA has selected 2014 MU69 as the target, as part of its normal review process the agency will conduct a detailed assessment before officially approving the mission extension to conduct additional science.

Like all NASA missions that have finished their main objective but seek to do more exploration, the New Horizons team must write a proposal to the agency to fund a KBO mission. That proposal – due in 2016 – will be evaluated by an independent team of experts before NASA can decide about the go-ahead.



Early target selection was important; the team needs to direct New Horizons toward the object this year in order to perform any extended mission with healthy fuel margins. New Horizons will perform a series of four maneuvers in late October and early November to set its course toward 2014 MU69 – nicknamed "PT1" (for "Potential Target 1") – which it expects to reach on January 1, 2019. Any delays from those dates would cost precious fuel and add mission risk.

2014 MU69 is a great choice because it is just the kind of ancient KBO, formed where it orbits now, that the Decadal Survey desired us to fly by. Moreover, this KBO costs less fuel to reach [than other candidate targets], leaving more fuel for the flyby, for ancillary science, and greater fuel reserves to protect against the unforeseen.

New Horizons was originally designed to fly beyond the Pluto system and explore additional Kuiper Belt objects. The spacecraft carries extra hydrazine fuel for a KBO flyby; its communications system is designed to work from far beyond Pluto; its power system is designed to operate for many more years; and its scientific instruments were designed to operate in light levels much lower than it will experience during the 2014 MU69 flyby.

But finding a suitable KBO flyby target was no easy task. Starting a search in 2011 using some of the largest ground-based telescopes on Earth, the New Horizons team found several dozen KBOs, but none were reachable within the fuel supply aboard the spacecraft.

The powerful Hubble Space Telescope came to the rescue in summer 2014, discovering five objects, since narrowed to two, within New Horizons' flight path. Scientists estimate that PT1 is just under 30 miles (about 45 kilometers) across; that's more than 10 times larger and 1,000 times more massive than typical comets, like the one the Rosetta mission is now orbiting, but only about 0.5 to 1 percent of the size (and about 1/10,000th the mass) of Pluto. As such, PT1 is thought to be like the building blocks of Kuiper Belt planets such as Pluto.

Unlike asteroids, KBOs have been heated only slightly by the Sun, and are thought to represent a well preserved, deep-freeze sample of what the outer solar system was like following its birth 4.6 billion years ago.

New Horizons is part of NASA's New Frontiers Program, managed by the agency's Marshall Space Flight Center in Huntsville, Ala. The Johns Hopkins University Applied Physics Laboratory in Laurel, Md., designed, built, and operates the New Horizons spacecraft and manages the mission for NASA's Science Mission Directorate.

from the New Horizons website

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	Z Dome
6	Henry Gerner	12" LX 200	Tangney Observatory
7	Vacant	8"/14" Celestrons	Ray Zit Observatory
8	Vacant	10" LX 200	Jim Toeller Observatory

At Your Service

Officers / Staff

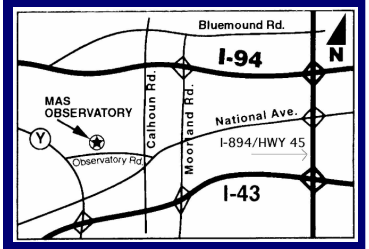
President	Vacant	
Vice President	Sue Timlin	414-460-4886
Treasurer	Dennis Roscoe	608-206-0909
Secretary	Agnes Keszler	414-581-7031
Observatory Director	Gene Hanson	262-354-0138
Asst. Observatory Director	Jill Roberts	414-587-9422
Newsletter Editor	Tamas Kriska	414-581-3623
Webmaster	Robert Burgess	920-559-7472

Board of Directors

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

August/September Keyholders

9/12	Tamas Kriska	414-581-3623
9/19	Mike Smiley	262-825-3981
9/26	Tom Schmidtkunz	414-352-1674
10/3	Dan Yanko	262-255-3482
10/10	Russell Chabot	414-881-3822
10/17	Gene Hanson	262-354-0138



MAS Observatory

18850 Observatory Rd
New Berlin, WI

www.milwaukeeastro.org