The Newsletter of the Milwaukee Astronomical Society **July & August 2004**

Thank You Scott!!

Scott Jamieson served as President of the Milwaukee Astronomical Society from May of 1998 through May 2004, the longest serving president to date. Much more important, are the additions and improvements that were accomplished under his guidance and watch. These improvements brought MAS observatory to the forefront of amateur observing.

These accomplishments include:

- The construction of three roll-off roof observatories that contain:
    - An 18" Obsession Dobsonian telescope .
    - A 14" clock driven Equatorial
    - A 10" clock driven equatorial with digital readouts installed.
- The construction of a remotely housed operated Meade LX-200…operated from Z building
- The acquisition of three cooled CCD imagers, an ST-6 and two ST-9E's.
- The conversion of the 25" Z scope to a computer controlled scope. This effort included installing hi- resolution pick-offs, reworking the drive system and the writing of software to interface the pick-offs and drive to star chart software in the PC.
- The acquisition and installing of PCs in all domed observatories.
- Provided needed repair and maintenance of A, B and Z scopes and domes.
- Extensive site rework including the removal of obsolete facilities.
- Initiated a long term search for a more remote dark site as a hedge against the increasing light pollution (at the present site) that's accompanying the Waukesha County building boom.

The upshot of all this capability is:

- All members have everyday access to the observatory site and excellent roll-off roof scopes for visual observing.
- The deep sky imaging and photometry capabilities of the CCD imagers, has allowed members to produce spectacular images of galaxies, nebula, clusters, comets and asteroid tracking. The photometry capabilities of the CCD's has helped make MAS one of the most prolific variable star data contributors in the worldwide AAVSO organization. Several new observers have come up to speed.. The CCD's (with their lesser sensitivity to background light) have also extended the useful observing life of the increasingly light polluted observatory site as well.
- Video imaging capability for asteroid occultations.
- Scott has actively promoted the cause of amateur astronomy as evidenced by the many media articles on MAS.

- The observing activity at MAS has risen significantly.
- Planning and searches for future dark observing sites has been initiated

No, Scott didn't do this all by himself. He provided the leadership to plan and do the upgrade, and a willing Observatory Director, Board, and cadre of hard working members made it happen. He did, however, spend hundreds of hours of his own time working on MAS facilities as well. In his spare time, Scott has also built two different domed observatories in his back yard. He built a Cookbook 245 digital camera and also designed and built several personal telescopes before settling on an LX-200 and a ST-9 imager for his own use. However, last seen, Scott was converting a home built 15 inch, F4.7 Dobsonian to a fork mounted equatorial complete with motors and pickoffs that will be computer controlled.

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In design circles, Scott would be dubbed an Engineer's "Engineer"…a guy who defines the problem, comes up with a good solution, implements it.....then constantly tries to improve on it. As an example, he once replaced the large ring holding the secondary mirror of the 25" Z Catadiotropic scope with a homemade ring containing his own ST-9 CCD in place of the secondary mirror. It converted the scope to a super fast 25" f/3 camera! The resulting images of several galaxies were spectacular. In his spare time he has also done considerable variable star observing, imaging asteroid occultations, comets and other deep space objects of interest..

The above list, as a sampler of activities under Scott's watch, is impressive.

THANK YOU Scott for all your efforts on behalf of MAS. We also thank Scott's wife Barbara, for her patience and support. There's no doubt that Scott will continue to be a productive member of the club.

MAS Picnic

by Vern Hoag

With summer here, don't forget to mark your calendar for the annual MAS picnic on Saturday July 17th. Starting time is around 4:00. Canopies are always setup so come out rain or shine. Grilled food, desert, soda and beer will be served all compliments of the MAS. We always get some great door prizes from some very generous companies, so get your name entered. As always you must be present to win. Come out see what's new, who's new, and have a great time. Visiting with old friends, making new ones, and observing at night. What a great way to spend a Saturday night.

Observatory Open House

August 13th is the next scheduled Open House at the observatory. The general public is cordially invited to attend a presentation about the Moon and Occultations. After the lecture, the various scopes will be available to observe the splendors of the sky. Spread the word to family and friends.

THE NEWBIE NOOK

By Steve Diesso

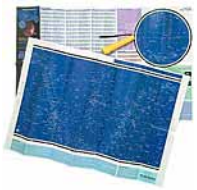
The term "Newbie" does not refer to new club members, but to all members who are new to the hobby of amateur astronomy. Do not consider it an insult. Even the most experienced amateur was a Newbie once. Having been a practicing amateur astronomer for over 20 years, it is easy to forget that new amateurs exist and need encouragement from their more experienced brethren. So I decided to write this column for them, the Newbie's. By joining the Milwaukee Astronomical Society (MAS), you already have an interest in astronomy. The goal of this column is to help expand that interest.

This column will discuss a wide-range of topics that will help guide the new astronomer to a greater understanding of the evening sky. We'll cover the constellations, lunar and planetary observing, and locating and observing deep-sky objects (nebulae, clusters and galaxies). Some information covered in this column will require a telescope, some will not. But you don't need to purchase a telescope right away. Remember, as a member of the MAS, telescopes are available to you any Saturday evening for FREE and we have some loaner telescopes that can be borrowed as well. Most columns will cover objects that can be viewed with the naked eye or with just a pair of binoculars.

Since this is the first column, I want to discuss the Recommended Equipment that the new amateur astronomer should acquire.

Binoculars: One of the first questions that Newbies ask experienced amateur astronomers is "What kind of telescope should I buy?" The answer to that one is simple. "Don't buy one yet!!" There are a variety of telescopes and each one suites different observing purposes. Use the club's telescopes and get a good feel for what kind of observing you would like to do. But I will provide one alternative to that question. One of the best instruments for the beginning amateur astronomer to purchase would be a good pair of binoculars.

Binoculars are a great product to purchase. Not only can they be used for astronomy, but are also useful for other hobbies. They are a great way to watch the Bucks and Brewer games from the upper deck, and are also good for bird watching. Look for a good quality pair of binoculars. But, shop around. Prices vary. When choosing binoculars there are a few features to consider. Binocular sizes are expressed with two numbers: 7x35, 10x50, etc. The first number is the magnification/power of the pair. The second is the size in millimeters of the width/aperture of the front lenses. For astronomy, an aperture of 50mm is perfect. A 7x50 model easily allows for it to be hand-held. But I would recommend a 10x50, although you might have to use a tripod to allow steady viewing. Also, purchase ones with Porro-Prisms to flip an upside-down image right-side up. Be prepared to invest at least $100 for a good pair. That may be expensive, but, with the proper care, they will last you a lifetime!!



Star Charts: One of the most important tools for the budding amateur is a good star chart. Once again, there are many to choose from. But, be sure the maps are easy to use, show entire constellations, and plot stars down to 6th magnitude. The Astronomy section of your local commercial or university bookstore will have a few to choose from. The charts should also show some of the brighter deep-sky objects as well. No recommendations here. But remember, any star chart is better than none at all!!

Moon Charts: Most experienced amateur astronomers seem to bypass the moon. In fact, we even try to plan our observing sessions during the times that the moon is not in the sky. But, most amateurs became interested in Astronomy when they saw the moon through a telescope. I enjoy looking at the moon, and a good moon chart makes it even more enjoyable. It is a great way to hone your observing skills, especially when you successfully identify features that are shown on the chart. Again, check out the bookstores. Preferably, you would like moon charts that show binocular and telescopic objects.

A Red Flashlight: Having great charts are useful, but to be able to see them in the dark can be an issue. You can use a flashlight, but shining a bright white light at a chart will cause the pupil of your eye to undilate or close. It takes your eyes about 20 minutes to fully dilate, allowing the maximum amount of light to reach your retina. One blast of white light, and it will take another 20 minutes for your eyes to adapt again. To avoid this problem, purchase a small flashlight and paint the plastic shield covering the bulb red. Enamel paint or red nail polish will do just fine.

Since this column is designed for the new amateur astronomer, I can use some suggestions. Why don't you drop me a line and let me know what topics you would like this column to cover. I may not get to the topic right away, but I'll try to cover it eventually. Send an email to me at diessos@yahoo.com. Hope to see you at the next meeting, and of course any clear Saturday night!!!

Clear Skies!!

Editor's Note

by Jerry Bialozynski

On Page 9 of this newsletter you will find an ad for the **Prairie Skies Star Party** at Camp Shaw-Waw-Nas-See, near Kankakee IL. If anyone would like to attend or just wants more information, send a request for info to me at focalpoint@bialozynski.com. I have a 9 page document, in pdf format, that is full of information with maps.

LUNAR TRANSIENT PHENOMENA RESEARCH PROGRAM
DAVID O. DARLING
416 WILSON STREET
SUN PRAIRIE, WISCONSIN 53590-2114 USA
(608) 837-6054
http://www.ltpresearch.org/

30 May 2004

Dear Sir:

I am sending this letter to inform you for the need for lunar observers. They are needed to participate in a global effort to monitor the Moon for Lunar Transient Phenomena. Lunar Transient Phenomena is short lived changes detected on the Moon and can consist of glows, flashes, darkening of lunar features and red and blue color phenomena. My goal is to coordinate and combine the talents and efforts of the professional and amateur astronomical community from around the world to monitor the Moon during upcoming spacecraft missions to the Moon. This concerted effort will be to assist all observers who choose to participate with the latest information about lunar transient phenomena and the latest information on reported events. There will also be coordinated observing programs to examine the behavior of historical lunar transient phenomena sites under similar lighting conditions.

This L. T. P. Research web site will also be an effective tool for observers with similar interests to communicate with each other concerning their own study of this phenomena and to present ideas on other lunar topics by utilizing the Internet and email as a cost effective conduit.

The primary function though is to attempt to establish a world wide network of observers that can be contacted when a lunar transient phenomena event takes place. Due to cost involved the use of Internet can be extremely effective and allow almost immediate notification to observers all over the world. Also being part of this network will help people learn of other observers within their region who also share an interest in this phenomena.

I have had the pleasure of establishing and running two major ground based operations in coordination with the Clementine mission and the Lunar Prospector mission. With both of these programs I had about 150 observers in many different countries participate with great success. What I did not have was a WEB Site to allow more interaction with the observers and have the ability to post the latest information about recently observed phenomena. The information about these two mission is located on my web page under Past Ground Based Observing Programs.

It is generally expected that observers participating with this program would have a background in lunar observing. This is very helpful but should not discourage the

newcomer to lunar observing. I have established a manual for frequently asked questions about how to observe and document lunar transient phenomena. Also there are many books on lunar observing that have been published that will assists the observer in a better understanding of this subject.

You are probably wondering what is this going to cost you. In the form of money nothing. I require no dues or fees for your participation. I only require that you observe, document, and submit observations. The time commitment to the program is up to you. There are generally four levels of participation. The first level is to just monitor the Moon whenever out observing and if you detect something unusual you submit a report and if possible activate the lunar transient phenomena network to attempt to get a confirmation. The second level is to systematically observe selected features on the Moon monitoring them for any changes or abnormal appearance. The third level is to participate in coordinated observing sessions of a specific lunar feature, recording and documenting what is observed during that observing window and submitting your reports to be evaluated and analyzed. The fourth level would be to monitor the Moon during a space mission to the Moon. Presently there are no missions at the Moon. The Lunar Prospector was the last and the observations from that have been posted on my web page under Past Ground Based Observing Programs. Future missions on the drawing table are the Smart 1 by the European Space Agency, planned arrival to the Moon in December 2004, and the Lunar A to be launched in 2004 or 2005 by the Japanese Space Agency. Both of these missions I have contacted the Principle Investigator and they have endorsed our participation by monitoring the Moon during their time in orbit around the Moon. The third mission called Lunarsat will happen in 2005 and is by the European Space Agency. The fourth mission on the table is again by the Japanese and is called Selene and expected to launch in 2004 or 2005. There is also a private company called Trans Orbital which is planning a Moon shot to conduct live video and high resolution imaging of the lunar surface, December 2004. This mission will only last for three months. Those who decide to participate with the program at what ever level you chose will be kept informed by monthly newsletters and updates being placed onto the LTPRESEARCH web site.

If you want to become a part of this international program click on the my web site and complete the registration form and join the great adventure.

Thank you for taking the time for reading this request and I hope to hear from you soon.

My Web Site is: http://www.ltpresearch.org/ you then go to Observer Registration and complete the form.

Thank You.

David O. Darling
Association of Lunar & Planetary Observers & British Astronomical Association, Assistant Lunar Transient Phenomena Recorder

Library News

By Scott Laskowski, MAS Librarian

1. Hubble: The Mirror on the Universe by Robin Kerrod-2003. Is that a pun or an excellent and precise explanation of what the Hubble Space Telescope does, imaging far away objects in such detail as has never been done before! The MAS library has several other HST photo books, but this new addition has more recent resplendent images. It contains beautiful images of galaxy interactions, star clusters, planetary nebula and the solar system planets. A description of the image is included on almost every page. If you choose to not use the internet, these are better reproductions than any of the photos you will see in false color.

2. Origin & Fate of the Universe (Collector's Edition) Special Cosmology Issue-2004. This special publication, by Kalmbach Publishing, deals specifically with the most modern advances in the understanding of cosmological theory. Included are articles about such mind bending ideas as inflation (how can the universe expand faster than the speed of light for the increment of a fraction of a second?), Dark matter (most of the universe is undetectable), dark energy (how can the cosmos speed up?), and multiple universes (multiverses).
A substantial portion is just excellent photos. The Local Group of galaxies, the Coma-Virgo cluster, and the deep universe is shown to nearly 13.7 billion years ago. It is interesting to just look at without considering branes, strings in super symmetry dimensions or the entire fate of the universe. Although, if that is where your interest lies by all means read the entire book!

New Members

A warm welcome to the newest members of the Milwaukee Astronomical Society:

Joseph Sturmberg, Menomonee Falls
Fred Kurth, New Berlin
Jeffery Bass and Family, Milwaukee
Elizabeth Beasley and Family, New Berlin
Patty Trinko and Family, Pewaukee
Robert Scofield, Pewaukee
Jennifer Johnson,Waukesha
Donald Stane,Elm Grove
James Smith and Family, Sussex
Elizabeth Heindl, Greendale
Thomas Halverson and Family, Delafield
Kristopher Pfeiffer, Waukesha

Space Weather

By Patrick Barry and Tony Phillips

Radiation storms, 250 mile-per-second winds, charged particles raining down from magnetic tempests overhead ... it sounds like the extreme weather of some alien world. But this bizarre weather happens right here at Earth.

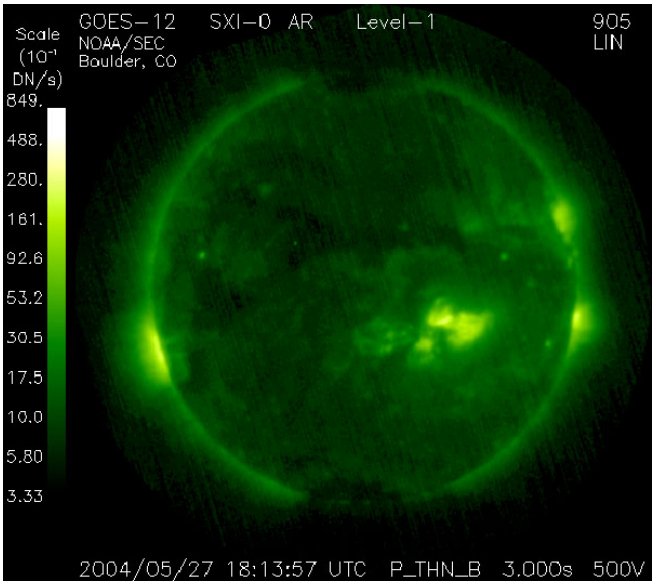
Scientists call it "space weather." It occurs mostly within the gradual boundary between our atmosphere and interplanetary space, where the blast of particles and radiation streaming from the Sun plows into the protective bubble of Earth's magnetic field. But space weather can also descend to Earth's surface. Because the Earth's magnetic field envelops all of us, vibrations in this springy field caused by space weather reverberate in the room around you and within your body as much as at the edge of space far overhead.

In fact, one way to see these "geomagnetic storms" is to suspend a magnetized needle from a thin thread inside of a bottle. When solar storms buffet Earth's magnetic field, you'll see the needle move and swing. If you live at higher latitudes, you can see a more spectacular effect: the *aurora borealis* and the *aurora australis*. These colorful light shows happen when charged particles trapped in the outer bands of Earth's magnetic field get "shaken loose" and rain down on Earth's atmosphere.

And because a vibrating magnetic field will induce an electric current in a conductor, geomagnetic storms can have a less enjoyable effect: widespread power blackouts. Such a blackout happened in 1989 in Quebec, Canada, during a particularly strong geomagnetic storm. These storms can also induce currents in the metallic bodies of orbiting satellites, knocking the satellite out temporarily, and sometimes permanently.

Partly because of these adverse effects, scientists keep close tabs on the space weather forecast. The best way to do this is to watch the Sun. The NASA/ESA SOHO satellite and NOAA's fleet of GOES satellites keep a constant watch on the Sun's activity. If a "coronal hole"--where high-speed solar wind streams out from the Sun's surface--comes into view, it could mean that a strong gust of solar wind is on its way, along with the geomagnetic storms it will trigger. And an explosive ejection of hot plasma toward the Earth--called a "coronal mass ejection"--could mean danger for astronauts in orbit. The advancing front of ejected matter, moving much faster than the solar wind, will accelerate particles in its path to near the speed of light, spawning a radiation storm that can threaten astronauts' health.

Look for coming articles for more about space weather and about NOAA's efforts to forecast these celestial storms. Meanwhile, read today's space weather forecast at: http://www.sec.noaa.gov/.
Kids can learn about the geostationary and orbits of the GOES satellites at: http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml .



This image shows the outer solar atmosphere, or corona, as viewed by the GOES 12 Solar X-ray Imager (SXI). It shows the plasma at 4.0 MK (million degrees Kelvin). Bright areas are associated with sunspots seen in white light images and may produce explosive events known as flares. Dark regions are coronal holes where the fastest solar wind originates. Image courtesy of the Space Environment Center/NOAA.

Prairie Skies Star Party

The Amateur Astronomy Events and Conventions Association (AAECA) will sponsor the Prairie Skies Star Party at Camp Shaw-Waw-Nas-See, near Kankakee IL, September 9 - 12, 2004.
A brochure containing details of the event will be available shortly. Individuals interested in attending Prairie Skies, should forward their name, USPS mailing address, and e-mail address to the contact listed below as soon as possible. Distribution of the brochure and registration form will be primarily by attachment in an e-mail. We may however, use your USPS mailing address as a backup, so be sure to include it in your reply. If you prefer to receive the information by USPS mail **ONLY**, please indicate so in your reply. If you would like more immediate information concerning this event, do not hesitate to contact me.

Please contact:
John Weber
Prairie Skies Star Party
prairieskies@ameritech.net
708 481-7970

MAS Officers / Staff

President:	Bob Manske	(608) 849-5287
Vice President:	Steve Diesso	(262) 641-0331
Treasurer:	Chris Weber	(262) 789-7128
Secretary:	Henry Gerner	(414) 774-9194
Observatory Director:		
	Gerry Samolyk	(414) 529-9051
Assistant Observatory Director:		
	Paul Borchardt	(262) 781-0169
Focal Point:	Jerry Bialozynski	(262) 895-7461

Upcoming MAS Events:

July 17 - MAS Picnic at the Observatory

Aug. 13 - Open House (The Moon & Occultations)

MAS Membership is open to anyone interested in Astronomy who wishes to enrich their knowledge of the Universe.

Yearly Membership Dues:

Individual $34/yr, Family $40, Non-resident (individual $22, Family $40), Student (under 18) $16. For more information, contact Membership Chairman, Carlos Garces, 16430 Melody Drive, New Berlin, WI. 53151.

Phone: (**262) 786-2623** Email : **cgarces@wi.rr.com**

Focal Point Publishing Guidelines

The "Focal Point" is published bi-monthly (Jan, March, May, July, Sept, Nov). Articles, Announcements, Graphics, Photos, Swap/Sale Ads etc. should be **submitted at least 10 days** prior to the first of the month (of the pending issue). Article inputs are preferred via email in a Text or Word compatible format. Submit Focal Point inputs to: **focalpoint@bialozynski.com**

Saturday Night Key Holder

July

3	Scott Laskowski	(414) 421-3517
10	Bob Manske	(608) 849-5287
17	Gerry Samolyk	(414) 529-9051
24	Terry Ross	(262) 784-2093
31	Gary Parson	(262) 895-3015

August

7	Tom Schmidtkunz	(414) 352-1674
14	Neil Simmons	(262) 889-2039
21	Chris Weber	(262) 789-7128
28	Dan Yanko	(414) 453-3382

September

4	Jerry Bialozynski	(262) 895-7461
11	Paul Borchardt	(262) 781-0169

Loaner Telescopes (available to members for local use)

Lee Keith (Franklin)	(414) 425-2331	8" Dob reflector
Scott Jamieson (Waukesha)	(262) 896-0119	8" Dob reflector
Paul Borchardt (MAS site)	(262) 781-0169	6" Dob reflector
Chris Weber (New Berlin)	(262) 789-7128	8" Dob reflector

MAS Observatory (262) 542-9071

MAS Web Page: www.milwaukeeastro.org

The Milwaukee Astronomical Society
c/o Jerry Bialozynski
8823 Oriole Lane
Wind Lake, WI 53185-5516

ADDRESS CHANGE SERVICE REQUESTED

*Next **Board & General meetings of the MAS** will be held on **March 19 & April 16**. The Board will meet at 7:00 PM, the General Meeting will be at 8:00 PM at **UWM**.*