

Gemini

a publication of the Minnesota Astronomical Society



<http://www.mnastro.org>

February 2002
Volume 28 Number 1

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Messier SIG

Greg Haubrich

Has Winter Photon Deprivation got you down? Have you ever had the almost uncontrollable urge to observe and log all the Messier Objects? The Messier Objects: 110 of the most beautiful deep-sky Objects observable from the northern hemisphere. Well, if so, the Messier SIG is just for you! A little background on the Messier Objects: In the year 1771, 40 year old Charles Messier, French comet hunter, was observing the night sky with 6 and 8 inch speculum metal mirror reflectors, and 4" refractor telescopes at the Observatory of the Marine, in Hotel de Cluny, from within the city of Paris, France. The effective apertures of Messier's telescopes due to their inferior optics are deemed to be equivalent to a modern 3.5" telescope.

Messier discovered approximately 20 comets during his life (which was about half the total number of comets discovered during this time) earning him the name "The Comet Ferret" In 1771 Charles Messier first published his "Catalog of Nebulae and Star Clusters" in the French Science journal: *Connaissance des Temps*. This first "Messier List" consisted of 45 deep sky objects which Messier, as a comet hunter had deemed a nuisance to be avoided for being mistaken as comets. Several of the objects listed were previously discovered by other observers such as: M7, in 138 AD by Ptolemy M45, mentioned in 1000BC writings by Hesiod.M44, in 300-250 BC by

Aratus However, Messier had never claimed to have discovered all the objects he cataloged. Messier, together with his friend and fellow observer Pierre Mechain, added 58 more deep sky objects (for a total of 103 objects) by 1784. Later Messier and Mechain added objects M104 to M107 and the M97 multiple nebula description was resolved into M97, M108 and M109. Messier had previously discovered M110 in 1773, but did not add it to his list. It was added later in his honor.

The Messier objects are the among the best, brightest, and most beautiful globular and open star clusters; Emission, reflection and planetary Nebula; galaxies and super nova remnants visible from the northern hemisphere. I invite you to join the Messier SIG and observe them with us.

The main goal for the newly formed Messier SIG is to help members observe and log at least 70 of the 109/110 Messier objects to qualify for the Astronomical League's Messier Club Certificate. Seventy are required for the normal certificate, and all 110 for the Honorary Certificate. These objects can be observed in dark skies with a telescope with an aperture as little as 3" or so (it worked for Messier at least!).

The SIG will encourage members, provide supporting information, and facilitate communication and observing sessions between Messier

Continued on Page 3

Eisenhower Observatory:

Come view the night sky through a powerful telescope on top of the Eisenhower Community Center in Hopkins, MN. Viewing time varies throughout the month and is open to the general public. There is no charge, although a \$2.00 donation is requested. Space is limited, so call Diane for reservations: 612-988-4077.

University of Minnesota:

Observing from the telescope on top of the Physics building, East Bank. Open to the general public. Fridays during the school year: 612-626-0034 for more info.

MAS Star Parties:

The Minnesota Astronomical Society hosts star parties, open to the general public. Come on out, get a look through a telescope, enjoy the view. Call 651-649-4861 for more info or log-on to the web at <http://www.mnastro.org>.

MAS News

The MAS president and board are happy to announce the appointments of two new site managers. The board has appointed Tom Youngblood as site manager for Metcalf and Vic Heiner for Cherry Grove.

We encourage ALL members to funnel site concerns to these managers and help them out as best you can. You can e-mail them at: Tom Youngblood: skyking@fishnet.com
Vic Heiner: HeinerV@aol.com

Patron Members

MAS offers a patron membership to anyone who wants to help support our activities by paying a slightly higher annual membership fee (\$40 instead of the regular \$16). We would like to thank the following patron members who helped support MAS this year:

Gregory Baril	David Kleinendorst
Robert Benson	Charles Latterell
James Bowditch	Michael Lavelly
Richard Brown	John LeVasseur
Albert and Dona Champlain	Joseph Luhman
Bud Clawson	Beverly Miller
Michael Conley	Mark Petersen
Chris Cowen	Warren Sampson
Daniel DesLauriers	James Schenz
W. Michael Garner	Robert Schmidt
William Glass	Robert Seabold
Martin Hage	Timothy Sinks
Michael Haydock	David Siskind
Eric Hegmen	George Skinner
Victor Heiner	Gary Smith
Dennis Johnson	Charles Smith
Chelen Johnson	John Steinmetz
Sally Jorgensen	Kathy Thompson
Michael Kauper	Daniel Werkema
Aris Kekedjian	William White
Michael Kibat	Glenn Wirth

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Gemini is published six times annually in February, April, June, August, October, and December by the Minnesota Astronomical Society. **Electronic submissions for Gemini may be sent to:**

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Hardcopy items should be sent to:

MAS Gemini
P.O. Box 583011
Minneapolis, MN 55458-3011

Send all MAS membership dues, change of address cards, subscriptions, and renewals to the current MAS treasurer. Subscriptions alone cost \$4.50 annually for members of astronomy clubs or \$9.00 for other persons. Materials for Gemini are due on the 10th of the month preceding the month of publication.

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SIG members. The first meeting of the Messier SIG occurred Jan. 8, 2002 in the front of the auditorium right after the monthly MAS meeting. I handed out a printed info packet and a CD for Messier SIG members containing: Messier Object info and pictures, Powerful Planetarium Freeware Programs, Messier Object History, Messier Finder Star-Charts, Messier Logging Freeware, Observing Tips, and General Astronomical information. So far the Messier SIG has 24 Members and growing! If you're interested, please join us after the meeting!

Thanks and Clear Skies,

Greg Haubrich

Messier SIG Coordinator.

P.S. If you are interested in joining the Messier SI, please email me at greg.haubrich@medtronic.com If you would also like to join the Messier SIG emailer please visit the website: <http://lists.mnastro.org/mnastro/listinfo/messier> and subscribe. 🐱

4th Annual Messier Marathon

Greg Haubrich

The Messier SIG Invites You to the 4rd Annual MAS Messier Marathon! Dust off the mirror or objective and come join us for a fun-filled night of observing! This year offers a great opportunity to observe 109 Messier objects on one spectacular night during the weekend of the new moon (March 15 or 16, 2002) at the MAS' Cherry Grove Observing site.

The Messier Marathon is open to all skill levels, with individuals setting their own goals. This year I am trying to arrange for prizes to be awarded to Messier Marathon participants as follows: for most M objects observed by an individual (star hopping), most M objects observed by 13 yrs. or younger class, and a random drawing of all participants. Dan Fish of Radio City has graciously donated the prizes the past 2 years for the MAS Messier Marathon from his fine stock of Amateur Astronomy Equipment. The level of seriousness of this Marathon is strictly up to the observer/participant. This is a non-stressful "go at your own pace" event (you will not have to sign any legal disclaimers). However, it's a chance to view many of the heaven's most beautiful objects in just one night! For links to a wealth of additional info on preparing for the Marathon, check out the MAS Messier Marathon Web Page or the links to the SEDS Web Page at (www.seds.org/messier/xtra/marathon/marathon.html). Star Hoppers and digital setting circles, as well as individual observers or observing teams are welcome (although they compete in different classes). No advanced registration is required, just sign in on the sheet in the Cherry Grove warming house early in the evening, and sign out

with your total Messier Object count (observer's honor) in the morning. There will be copies of the "Messier Marathon Observer's Form" for logging in the warming house. Warm apple cider and cookies available.

Recommended: Telescope and/or Binoculars (etc.), good Charts, warm clothes, and de-dewing equipment (will have 12V hair dryer on-site to loan out if needed). A certain amount of passion for the night sky, otherwise diagnosed as "Messier-Madness" won't hurt either. Date: March 15, or 16 (weather alternate) (Sunset: 6:20PM, Sunrise: 6:24AM)

Location: Cherry Grove

Check the MAS phone message @ 651-649-4861 for a go/no-go (updated by 5 PM; or call my home phone if it's not updated). Please contact me (Greg) if you have any questions: greg.haubrich@medtronic.com or my home phone 763-421-4736.

The MAS' Messier Marathon is getting more popular every year since its start. It's a blast! Last year's Marathon had an incredible turn out considering the wintery weather. But be careful to observe responsibly, the Surgeon General has shown "Messier-Madness" to be addicting!

The Messier SIG looks forward to seeing you there! 🐱

Gemini Market Place

For sale: LX10 with Magellan, a Pelican box for the scope, and an LX200 tripod. Asking \$800. Call Patrick Frawley at 608-783-3790 or e-mail: jlf55@centurytel.net

For Sale: Orion Skywatcher 4.5" Refractor with moon filter and "EZ Finder" red dot pointer. In new condition and was well cared for. Selling only because I'm upgrading. \$450.00 Contact Mark at marksheri@earthlink.net or 952-895-6120.

Astro Photos from MAS members

Rolf Karlstad / John Vylasek / Gary Smith / Todd E Giencke / Dan Fish

Photo by: Rolf Karlstad

Everything here captured with: Celestron CR-150HD refractor + chromacor + TV powermate 4x + canon L1 camcorder. Except - picture of Jupiter in upper right, this was same (-camcorder) + 35mm panoptic + Hp 912 digital camera and afocal projection.

All images are either processed in Astrostack or Iris. Iris is incredibly cool, but Astrostack is easier to use, and is the processor that I have used exclusively in the past. However I'm leaning toward Iris now. One shot color, no refocusing. Lots of processing, except for maybe the example of the image in the upper left, no real processing there, except for registering and stacking.

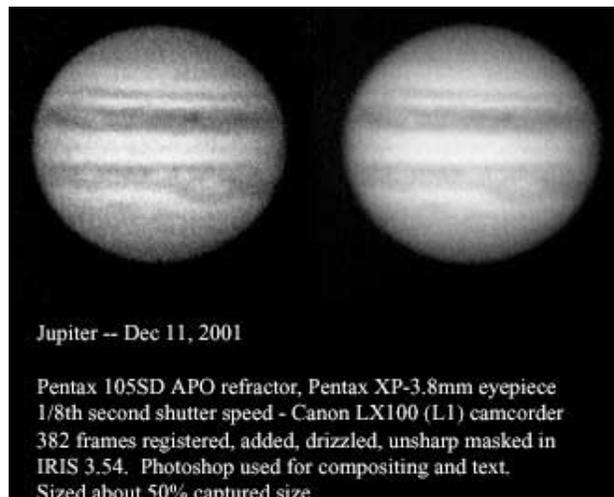


Photo by: Rolf Karlstad

From Dec 11th, tuesday morning, sometime after midnight. Used my 4" Pentax APO, the 105SD, this is a 2 element SD glass APO with 1000mm fl, f/9.7. Eyepiece was a Pentax XP - 3.8mm eyepiece projection specialty' eyepiece. I have a set of 3.8, 8, and 14.

Funny — they interface just perfectly with the 105SD — the 105 has a beautiful compression fit .965" eyepiece holder with integrated T-threads, just put in the eyepiece, attach a T-extension tube to the holder, and attach camera to T-extension tube. I'll take some pictures with the XP's and my 6" soon



Photo by: John Vylasek

I took these pics through my 16" reflector by aiming my digital camera at the eyepiece. If you look closely you can see the cloud bands on Jupiter and also on Saturn. You can also see the shadow of Saturn's globe on the rings behind it. Out of about 30 tries through my unguided dob I got these two decent shots. It was worth it!



Photo: Dan Fish

I have done a few with the one shot color camera. Here is one done with my 8"-focus needs improvement-it is the first shot I ever did and I did not do the algorithm to change the perspective from the 3 by 4 perspective. I did that adjustment in Photo shop so it is close. The software did not allow stacking well so I will have to get back and try that. Orion did well and of course the shots on the 16" were great in comparison.



Photo by: Gary Smith
My backyard Saturn... (and first color CCD shot).

Date 12/2/2001 10" SCT @ f/20, 416 Pictor, .4sec Red .4sec Green .6sec Blue My best Jupiter shot from last year. (3 moons) Meade 10" SCT, Pictor 416 CCD, IR filtered .4 sec



Photo by: Bob Brose
I took this a few years ago at a Persied shower. It's on Kodak Tri-X at 400 asa. A fairly short exposure with I believe a 28mm lense and the camera laying on the ground.

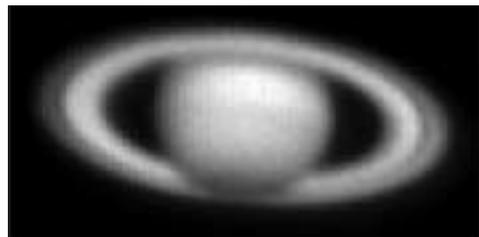
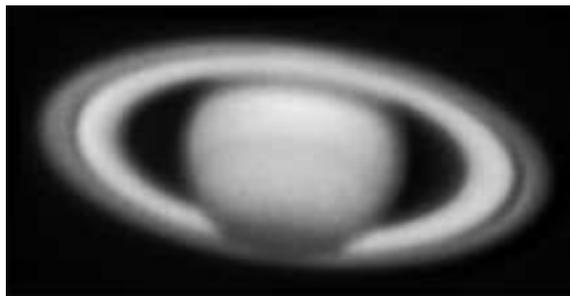
mailto: bob@kunk.jriver.com
http://www.qbjnet.com



Photo by: Todd E Giencke
For my next challenge in CCDing I'm doing planetary imaging. Here is a 2 x 0.15sec image of Saturn I did from my backyard on Thursday night. The seeing was horrible. Storm front coming in. 8" SCT @ f/17 ST-237 CCD camera 0.44"/pixel Unsharp masked and mean combined to bring down the noise.

As a resolution test I used a 3x barlow which gives me 0.25"/pixel. Dawes limit for my 8" SCT is 0.57". So > 2x sampling the resolution of the optics. The resolution is limited by the sky. Image info...8" SCT @ f/30 with a Tele Vue 3x Barlow ST-237 CCD 0.25"/pixel 2 x 0.3sec mean combined Medium unsharp mask sharpening filter Gamma histogram stretch

I must say watching the images download it is a lot like pushing the limits of magnification through an eyepiece. The details fade in and out constantly. The "did I see what I think I saw or was it my imagination" really applies. I have the images to bring down the noise. I just haven't had the time to combine them. And really this is only a resolution test ;-)



Second chance for Ottewell calendars

Mike Kibat

If you missed the sign-up late last year for Guy Ottewell's "2002 Astronomical Calendar" you can still purchase one, though not at the discounted group rate available earlier. (If you are not familiar with the calendar, visit <http://www.universalworkshop.com/page6.html> for a description.) Copies will be sold through the end of February with all net proceeds supporting the education and outreach mission of the Onan Observatory.

To order your copy, send an email to OnanInfo@MnAstro.org. Include your name, shipping address and number of copies

desired, along with daytime and evening telephone numbers. (If you don't have access to email send the same information along with your check.) Then, send a check payable to the Minnesota Astronomical Society in the amount of \$27.00 to: Treasurer Minnesota Astronomical Society 1615 East River Parkway Minneapolis, MN 55414-3627

Include a note with your check indicating it is for the "Onan Observatory Calendar" offer. As soon as your check is received, your copy will be mailed to the shipping address you provided. 🐱

MAS and Onan Observatory in the public eye

Mike Kibat

2001 was a big year for the MAS and its Onan Observatory. In addition to a wildly successful Leonids star party and other public events, both entities were prominently showcased on several occasions. In the December 2001 issue of Sky & Telescope Magazine, one-half of David Levy's "Star Trails" column highlighted the MAS-sponsored Astronomical Society of the Pacific convention star party, held in July at the observatory. The article featured photographs of the Larson telescope and the observatory building.

On December 8th, local television station KSTP-5 aired a story on light pollution featuring the Onan Observatory

and interviews with observatory volunteers. And most recently, the January / February issue of "Minnesota Conservation Volunteer" (published by the Department of Natural Resources) contained a feature article on astronomy. The lead for the article described the authors' experience visiting the Onan Observatory. In addition, photographs taken by members of the MAS were featured.

Such publicity is great for the growth of the Society and for the ongoing development of the observatory. If you are aware of similar public relations opportunities in 2002, please drop an e-mail to OnanInfo@MnAstro.org. Mike Kibat 🐱

Outreach Chair

Doug Brown

One of the most important positions in the MAS needs to be filled. The MAS needs a member to take over the position of the outreach chair. This position is for people who want to interact with the public at arranged viewing events that you help coordinate. These events are usually set up for schools and scouting events.

The outreach chair is perfect for someone who loves to work with people and tell them what you know about astronomy. It isn't necessary to have a formal background

in astronomy - just share your enthusiasm about the hobby. The pay may not be very good for this position (in fact, it's nothing), but the rewards of hearing the "oohs" and "ahhs" from people seeing Saturn, Jupiter, and even the Moon for the first time in their lives are immense.

Please contact the MAS board if you're interested. We would also welcome co-chairs if that arrangement is better for you. 🐱

Beginners SIG Schedule

Patti Neavin

Jan 23rd, 7:00pm - In preparation for a field trip to the Mpls Planetarium, Parke Kunkle will be meeting with us to get ready and answer any questions. I'm trying to get the Roseville Library meeting room. I should know for sure today if this room is available, and I'll post a confirmation later today. Important: bring a standard 2-D-cell flashlight with you to the meeting. Don't bring a red-beamed flashlight or a good sealed-beam light - they're too bright. I'm pretty sure you can get them at Menards for \$1.99 + tax. If you want me to pick one up for you when I go, let me know by this Friday.

Jan 31st 5:30pm - field trip - stargazing at the Mpls Planetarium with Parke Kunkle. If you couldn't make the meeting on the 23rd but still want to go, let me know. I'll see if we can make other arrangements. You need to have the prep work done beforehand.

Feb. 9th, 10:00am - a field trip to the 3 observing sites in broad daylight so we can get our bearings. Of course, this will depend on the weather and the accessibility of the sites. We'll start with Metcalf, then on to Cherry Grove, then Baylor. Mike Kibat will meet us at Baylor. I'm thinking we could have lunch together somewhere around Cannon Falls. This will probably take all day, so I think it will be a good chance for us to get to know each other. We'll need volunteers to drive, and we can ride with different people on different segments. Since there's no regular monthly meeting beforehand, we'll set it up via e-mail. Let me now if you're interested. Again, the date will depend on the weather - we might have to put it off until it's warmer.

Feb. 20th 7:00pm - monthly meeting - Jackie LaVaque will cover some basic astronomical terms. Ones you'll run into in magazine articles, e-mails, at star parties, etc. Probably SW suburbs location. Early March - How about a field trip to an observatory in the twin cities area?

Mar 20th 7:00pm - monthly meeting - An introduction to star-hopping and signposts. A basic overview of the things you should be able to locate easily with the naked eye to help you find other things. Location will be E suburbs. Late March, Early Apr - field trip - BSIG star party at Onan - in the works.

Apr 17th 7:00pm - monthly meeting - How to choose a telescope - Location will be NW suburbs.

Early May - field trip to ????

May 15th 7:00pm - monthly meeting - Messier Objects - what are they, where are they, what size scope do you need to see them - I've e-mail Greg Haubrich, the Messier SIG coordinator. looking for a volunteer for this one. Location will be SE suburbs.

June 13-15th - camping & stargazing in NW Wisc. - I need to confirm with the campground that they don't have anything going on that would prevent us from getting enough sites (not likely) and permission from the farmer that said I could use his field for stargazing (I won't see him until April, but hey, it might be fun even if we can't use his field). He's semi-retired, so his field across the road is being left natural for wildlife. I don't think he would mind as long as we walk instead of drive into the middle of the field and don't do any damage. The campground is about 70 miles NE of St. Paul between Balsam Lake and Amery. It's not a "5-star" campground, but the facilities are adequate. There are some pull-through sites if you have a large RV, and most of the smaller sites have electric and water. It's right on the AppleRiver, so tubing could be arranged, and there's a small bar on the premises. It's under new management and improving all the time - and the people are very friendly. Let me know if you're interested so I can make some preliminary reservations. June 19th 7:00pm - monthly meeting - How about "Choosing accessories for your telescope". Location will be Western suburbs.

July ?? - field trip?

July 17th 7:00pm - monthly meeting - How to get started in imaging I'll post to the imaging list to find a volunteer for this one. Location will be Minneapolis.

Aug ?? - field trip?

Aug 21 7:00pm - monthly meeting - Collimating your scope - I don't anything about this, but maybe I (we) should. It sounds important. Maybe also some "care and feeding of your telescope" info. Location will be NE suburbs.

Sep ?? - field trip?

Sep 18th 7:00pm - monthly meeting - Building a telescope - Location will be S suburbs.

Oct ?? - field trip?

Oct 16th 7:00pm - monthly meeting - topic? - Location will be St. Paul.

Nov ?? - field trip?

Nov 20th 7:00pm - monthly meeting - topic? - Location will be NW suburbs.

No meetings in December - we all have too much to do

2002 Onan Observatory Event Schedule

Date	Day	Event	Sunset	Astronomical	Twilight Ends
March 9 2002	Sat	Onan Training	18:13	19:51	5:00
April 6 2002	Sat	Onan Training	18:49	20:33	4:02
April 13 2002	Sat	Onan Training	19:58	21:44	4:46
April 20 2002	Sat	Onan Public Night: Astronomy Day	20:07	3:50	4:31
May 3 2002	Fri	Onan NCRAL Star Party	20:23	22:22	3:08
May 10 2002	Fri	Onan Public Night	20:31	22:35	3:47
May 11 2002	Sat	Onan Public Night	20:32	22:37	3:45
May 17 2002	Fri	Onan Public Night	20:39	1:51	3:33
May 18 2002	Sat	Onan Public Night	20:40	2:28	3:31
June 1 2002	Sat	Onan Training	20:54	23:17	2:05
June 14 2002	Fri	Onan Public Night	21:03	0:30	2:58
June 15 2002	Sat	Onan Public Night	21:03	1:04	2:58
July 19 2002	Fri	Onan Public Night	20:55	2:18	3:33
July 20 2002	Sat	Onan Public Night	20:54	2:59	3:35
August 3 2002	Sat	Onan Training	20:39	22:41	1:40
August 16 2002	Fri	Onan Public Night	20:20	1:00	4:27
August 17 2002	Sat	Onan Public Night	20:18	1:43	4:28
August 31 2002	Sat	Onan Training	19:54	21:39	0:14
September 6 2002	Fri	Onan Public Night	19:43	21:26	5:02
September 7 2002	Sat	Onan Public Night	19:41	21:24	5:03
September 13 2002	Fri	Onan Public Night	19:30	23:39	5:12
September 14/2002	Sat	Onan Public Night	19:28	0:31	5:14
October 4 2002	Fri	Onan Public Night	18:50	20:28	5:41
October 5 2002	Sat	Onan Public Night	18:49	20:26	5:42
October 11 2002	Fri	Onan Public Night	18:38	22:23	5:50
October 12 2002	Sat	Onan Public Night	18:36	23:21	5:51
November 1 2002	Fri	Onan Public Night	17:04	18:43	3:48
November 2 2002	Sat	Onan Public Night	17:02	18:42	5:09
November 8 2002	Fri	Onan Public Night	16:55	20:06	5:24
November 9 2002	Sat	Onan Public Night	16:53	21:10	5:25
November 30 2002	Sat	Onan Appreciation Event	16:36	18:21	4:02

Onan Update by Kevin Saunders

If you need relatively a dark observing site for a little winter viewing, the Onan site is relatively free of snow. I was surprised how little snow they have in the area. I bought a snow shovel with the intention of clearing off the plaza area, but it wasn't necessary. There were a few 6" drifts by the doors which I scooped away to make the place looking "lived in". I also brought in some pipe insulation to shove in between the roof and the walls, to help keep some of the winter out of the building. There was a little bit of snow inside the place, though not much. The insulation made a marked difference in keeping the wind out.

A few weeks ago, Mike K. made mention of the mouse droppings in the coffee pot (which he dutifully brought home, cleaned and returned (the coffee pot, not the droppings)). I found a bigger surprise waiting on my arrival. Someone had left the coffee pot half full of water, which was now ice. Embedded in the ice was.....THE MOUSE!

I brought Stu home with me (Stu, get it? Mouse in water? STEW! HAH!), although I did put him in the back of my truck so as not to thaw in the front seat. The thought of the mouse potentially re-animating from his cryogenic state while I was driving might be a distraction. ;-) [Note to the biologists out there. Don't send me email. I know that he couldn't come back to life.]

Stu's in my workshop warming up right now. After he and the coffeepot become separated, I'll bleach and clean the pot. If anyone plans on going out to the observatory, and lives in the eastern suburbs let me know if you can come and pick the pot up. If not, I'll bring it out when I can. It seemed silly at the time considering the foregoing but I baited two mousetraps while I was there. One is located right where the coffeepot is, and one is under the bottom bunk in the NW corner of Baby Bear. 🐭

A Fallen Star

Jim Fox

Hubert Brueckner 1913-2002

Known to everyone as "Hub," he passed away suddenly on Saturday, January 12th, from congestive heart failure. His son Richard still lives in White Bear Lake. A brief memorial service was held at South Shore Trinity Luthern Church in White Bear Lake on January 23rd.

Hub was born in Chicago. I know little of his early life, but he was working as an optical engineer for Revere Wollensak when that company was acquired by 3M in the early 1960's. I first met Hub when I started working at 3M in 1968.

Since 3M had no astronomy club for employees, I decided to see if there was any interest in forming one. Hub was the first to reply to my notice. At our first meeting, Hub's "What can I do to help?" became a characteristic that always surfaced when there was a need. Over the next 15 years, he held every office and committee chair of the club -- more than once. That attitude came forward again when we decided to form a new club, outside of 3M. Hub was an eager supporter of the Twin City Astronomy Club, predecessor of the Minnesota Astronomical Society, when it formed in 1972. I know that he served as secretary of our club during several of its early years, and may have served in other positions as well. When not serving in a direct role, Hub was always supportive of others as they pursued their particular

astronomical interests. At his death, Hub was one of the club's "honorary members."

It was impossible to know Hub without wanting to share his passion for astronomy. He was an avid supporter of the Astronomical League, serving as its Program Materials Chair for several years. He contributed many biographical "Vignettes" to Northern Lights, the newsletter of the North Central Region, and did not seem to mind when we chided him for knowing personally such historical figures as Tycho Brahe, Newton and Galileo. History of astronomy one of Hub's special interests.

When he retired from 3M, Hub moved to Harlingen, TX. While he had a variety of telescopes over the years, his favorite was his 7" Questar. "I got it instead of a new car one year," he would quip. I last saw Hub in 1986 when I visited him in Texas to get a better view of Halley's Comet. He had the big Questar mounted in a small, metal shed that he had modified to include a roll-off roof. "The owners' association wouldn't let me build an observatory, but they would let me put up a garden shed," Hub said with a twinkle in his eye as he pointed to the weed trimmer standing in the corner.

Always innovative! Now Hub has better seeing conditions than any of us. He will be missed. I'm glad that I was fortunate enough to have known him. 🍷

Hub was one of the club's "Honorary Members"

"Missing" Jim Nygaard

Jim is a member of the MAS who has attended meetings and helped at the observatory over the past years, but has been missing for several months. If you've seen Jim since Nov 1, **please** contact his sister, Kristin Kispert at 219-464-8547 or Kristin.Kispert@valpo.edu 🍷



Minneapolis Planetarium's Fourth Annual Winter Solstice Celebration

by Jackie LaVaque

Back in the days when Rome was the known world's greatest superpower, and the winter days were short and dark (they still are), the Romans held an annual celebration called Saturnalia, which honored the return of their sun god, Sol Invicta. The date for the start of this grand celebration varied from year to year, but it was generally held right around the time of the winter solstice. It was a time of general merry-making and connecting with family and friends, just like our winter holidays are today. From my limited research on the it seems that the Romans got a bit kooky during Saturnalia. Hedonism and revelry were the order of the day, this no doubt being augmented by copious quantities of food and alcohol. I didn't see any of that at the Minneapolis Planetarium's Fourth Annual Winter Solstice Celebration, which was held on December 21 from 4:00 pm to 7:30 pm. Instead, the folks that run the Planetarium treated guests to star shows, arts and crafts, and a grand fireworks display. There were lots of people downtown for the Holidazzle parade, so we had a pretty good crowd going. After the parade, people flocked into the Library to get out of the cold.

Planetarium staff had a table set up with information regarding the plans and design for the proposed new Planetarium and Space Science Center. Some MAS members were on hand too: me, Ben Huset, Paul Walker, Bob Brose, Dave Olmstead and John Treadwell (sorry if I left anyone out). We had a table set up in the lobby of the library, offering literature regarding the MAS and other local space clubs; there were also a couple of laptop computers on hand, displaying star charting and ISS-tracking software. And yes, a couple of us brought our telescopes—John brought his Dobsonian and I brought my small refractor, just in case the weather decided to cooperate.

Of course, there were clouds. Seems there are *always* clouds whenever I've gone to these solstice celebrations. They were not thick clouds, but just enough to obscure the views of most everything except for the Moon, which looked rather eerie, as if someone had thrown a gossamer veil over it. Still, there was enough lunar detail visible to make viewers go "ooh" when viewing through a telescope. I believe that the ISS did a flyover that could actually be glimpsed on and off through the clouds, but I missed it. My job was basically to stand out in the cold wind and field questions from the

public. Lots of people had general questions about telescopes. I spoke with one lady who was interested in buying a telescope for her son for Christmas, and I recommended several options which I thought might be good for her. I handed out MAS business cards and told people about our various observing sites.

The evening flew by. Before I knew it, it was time for the fireworks to fly. I love winter fireworks. There is something really neat about the way fireworks react with the cold air. Maybe that's just my imagination, but I really prefer watching fireworks in December as opposed to July, perhaps because I'm not an Old Country Buffet for mosquitoes in the middle of winter. The fireworks were set off from the parking lot just across the street to the north of the Library. A dazzling display of sprays, whirligigs, puff-balls, bee-swarms, and the sounds of whistling, popping and sizzling filled the eyes and ears of the onlookers for roughly 20 minutes or so. As the last of the smoke cleared the air, the crowd dispersed.

A few of us MAS members hung around at the Planetarium afterwards for snacks and beverages. We were joined later by the crew that put on the fireworks display. I almost asked one of them how they got into that line of work, because I've always wondered what factors go into the decision to become a pyrotechnician. I recall many long hot summer days when I was a kid and my friends and I would somehow obtain a gross of bottle rockets and have fights with them ("don't try this at home"). Of course, none of this took place within the vicinity of any of our houses, for our mothers would've run out and confiscated our goodies and dragged us in the house while giving us a high-pitched lecture about how we could put an eye out with those things. But I digress...

Thanks to the staff of the Minneapolis Planetarium and those in the MAS who helped to make this a fun event. If you are interested in contacting your government representatives to express your support for the proposed new Planetarium and Space Science Center, please do give Bob Bonadurer or Rod Nerdahl a call and let them know. They can use all the support they can get! 🐱

New Member Orientation

Mike Kibat

The first MAS new member orientation took place on Saturday morning, January 12th, at the Science Museum in St. Paul. Over twenty new members attended to learn everything from how to get their Gemini mailing address changed to which observing site best suited their needs. Thanks to Board members Jackie LaVaque, Dave Olmstead and Doug Brown for attending and providing their input.

The next orientation is tentatively scheduled for Saturday, March 9th. If you are interested in attending, please contact Mike Kibat via email (kibatme@visi.com) or telephone (952.884.0039). 🐱

Help the Minnesota Planetarium & Space Discovery Center

Parke Kunkle

Dear Stargazer,

We need your help today! Help us build Minnesota's gateway to the stars! Governor Ventura has already omitted this from his funding package. So we need you to call and write immediately. Right now, the State Legislature is considering a \$30 million bonding request to fund the Minnesota Planetarium & Space Discovery Center. If they approve it, Minnesota will build a world-class planetarium – on the roof the new Minneapolis Central Library – where visitors can tour the Orion Nebula as new stars are being born, walk on the surface of Mars, and access the same telescopes that today's astronomers use to explore the Universe. If they reject it, Minnesota will become one of only five states without a modern, large public planetarium.

Here's what you can do:

1. Contact your State Legislators and the Governor by phone, mail or e-mail asking them to support the Minnesota Planetarium & Space Discovery Center. Tell them, in your own words, why you believe a new Planetarium is vital to the education of our children. From talking to legislators, letters and phone calls work best.

If you can, e-mail your message to all 35 members of the House and Senate Capital Investment Committee (see www.mplanetarium.org/planet_Help.html for addresses).

Please copy all correspondence to
Minneapolis Planetarium Director Bob Bonadurer (rjbonadurer@mplib.org; 300 Nicollet Mall, Minneapolis, MN 55401; (612) 630-6151).

Please follow all contact by calling your Legislators' aides to repeat your request and ask if a decision has been made to support the new Planetarium.

2. Forward this message to your friends, family and colleagues across Minnesota who care about science education, stargazing, and the beauty of our night skies.

It's easy! To find your Representative's name and contact information, call (800) 657-3550; to find your Senator's, call (888) 234-1112. This information is also available at www2.pioneerplanet.com/precinct/.

Personal contact matters. Calls and letters persuaded the Legislature to grant this project \$1 million in 2000 for research and design. Now they need to hear from us again. The future of Minnesota's gateway to the stars will be decided in a matter of weeks!

The following pages provide additional information about the project. More is available at www.mplanetarium.org. If you have other questions, please call me at 612-373-2777 or email me or call Bob Bonadurer at 612- 630-6151.

Please take a few minutes now to contact your representatives. It will make a difference.

And Thank you!!!! Parke 

What is the Minnesota Planetarium & Space Discovery Center?

Parke Kunkle

Minnesota's Gateway to the Stars

The Minnesota Planetarium & Space Discovery Center will replace the Minneapolis Planetarium, which is scheduled for demolition next fall. Combining state-of-the-art technology, hands-on learning and a staff of astronomy educators, the Minnesota Planetarium & Space Discovery Center will take visitors on an educational adventure to the far reaches of space. Students and families will return to Earth transformed by the immensity and beauty of our Universe. The Minnesota Planetarium & Space Discovery Center will provide a much needed venue for expanding and developing Minnesota's inquisitive minds.

The heart of the facility will be a 70' theater capable of replicating a night sky lit by more than 9,000 stars. The starfield will be so realistic that audiences can use binoculars to spot faint nebulas, star clusters, and galaxies. A full-dome immersive video projection system utilizing stunning 3-D digital images will dramatically recreate the sensation of space travel. The planetarium will be among the largest and most sophisticated theaters in the world.

The planetarium will be enhanced by the "North Star Observatory," where individuals and school groups can access images from orbiting satellites and live telescopes around the world. This unique resource will allow visitors to witness the same real images being studied by today's astronomers. Workstations throughout the Observatory will engage visitors in experiments that bring astronomical discoveries to life.

The "Space Exposition Hall" will feature traveling exhibits on topics ranging from the Cassini mission to probe Saturn's Moon Titan to the latest global warming research. In addition, "virtual environments," such as a Holodeck that utilizes 3D video projectors to transform an empty room into the surface of Mars or the Moon, will allow visitors to experience space directly.

How will Minnesotans benefit from the Minnesota Planetarium & Space Discovery Center?

The greatest impact will be to inspire Minnesota's students and to greatly improve their science education through the Planetarium's unique, experiential learning opportunities. At the Minnesota Planetarium & Space Discovery Center, students will have access to state-of-the-art resources that would not otherwise be available to them, including 3D visualizations of the latest NASA research and connections to remote telescopes and satellites. In addition, we will work with teachers to integrate space science into their classroom curricula. Inquisitive Minnesotans of all ages will have the opportunity, without traveling to Chicago or New York, to explore the latest advances in our studies of the Universe and Earth's place in it.

Not only is the technology unique, the basic experience of a vivid night sky is becoming increasingly rare. Light pollution, which was once confined to urban centers, has spread so far beyond our cities that most of us rarely see a night sky filled with stars. In addition to offering the best in technology and education, the Minnesota Planetarium & Space Discovery Center will help us reconnect with the night sky and the broader Universe.

What happens if the State does NOT fund the project?

Without state funding, there will be no Minnesota Planetarium & Space Discovery Center.

Why not simply remodel the existing Minneapolis Planetarium?

The Minneapolis Planetarium, built in 1961, is scheduled for demolition this fall to clear space for the new Minneapolis Central Library. In addition, the Sputnik era planetarium instrument itself would be of no value to a modern, replacement facility.

What are the national trends for planetariums, and how would the Minnesota Planetarium & Space Discovery Center fit into the mix?

There are nearly 1,500 planetariums in the United States. Most (73%) are small, seating 50-80 people, and were built in the 1960s and early 1970s. "Second tier" planetariums, seating 80-200 people and integrating more sophisticated projection capabilities, comprise 25% of all planetariums. These are found mostly in metro areas and are usually part of a science/natural history museum or college. These have flourished recently with 38 new "second tier" planetariums being built or remodeled within the last 10 years. There are 30 "first tier" planetariums, seating 200 or more. Like second tier planetariums, these big space theaters have seen a resurgence. By 2004, 18 will have been built or remodeled since 1990.

Currently, the Minneapolis Planetarium (built in 1961) ranks as one of the oldest second tier planetariums. Of the top 20 metro areas in the nation, only Seattle has a smaller public planetarium. The Minnesota Planetarium & Space Discovery Center will rank as one of the top ten planetariums in America in terms of dome size and technical sophistication.

How will the new planetarium be different than New York and Chicago?

The Minnesota Planetarium & Space Discovery Center will be smaller in total square footage for exhibits, production and administrative areas. However, our planetarium theater (i.e., dome) will be comparable in size and function to Chicago and New York. The new theater will utilize the latest in star projection technology and full dome immersive video.

How do I find my representatives?

To find your Representative's name and contact information, call (800) 657-3550; to find your Senator's, call (888) 234-1112. This information is also available at www2.pioneerplanet.com/precinct/.

If you know their names, Representatives can be written to at the Minnesota House of Representatives, 100 Constitution Avenue, St. Paul, MN 55155; Senators at Minnesota Senate, 75 Constitution Avenue, St. Paul, MN 55155; and Governor Ventura at The Minnesota State Capital, St. Paul, MN 55155. Please remember to copy all contacts to: rjbonadurer@mplib.org or Bob Bonadurer, the Minneapolis Planetarium, 300 Nicollet Mall, Minneapolis, MN 55401.

Thanks for your help! Generations to come will benefit from the investment we make today! 

2002 Star Parties

Star parties are held on Friday if weather permits, otherwise on Saturday. Call (651) 649-4861 after 6:00 p.m. on a star party date to hear whether it will be held.

Metcalf

Metcalf is the grassy parking lot of Metcalf Nature Center, about 20 miles east of St. Paul along highway 94. About 6 miles E of the 694/494 crossing is county road 15 (Manning Ave.). Turn right, then left onto the frontage road and continue east, crossing over county road 71. Turn right (south) onto Indian Trail; follow it 1.1 miles to an chicken-wire gate on the right, (marked by three blue reflectors), opening onto a dirt driveway, which is the entrance to Metcalf.

Baylor Regional Park

Baylor Regional Park is roughly 25 miles W of the SW corner of 494. Head west on highway 5, through x, to Young America. Turn right onto county road 33 and follow it about 2 miles to the park, a right turn. The observing site is through the gate and roughly 100 yards beyond. Card-carrying MAS members may observe at Baylor at any time; call the park keepers in advance at 448-6082.

When visiting Baylor Regional Park, MAS members are requested to NOT park on the grassy areas next to the observatory (or any other grassy areas for that matter). This is a matter of being considerate to the park, its caretakers, and other visitors, so PLEASE PARK in the PARKING AREA.

Annual Park Permits (optional, not required for observing) can be purchased by sending a check to Carver County Parks, 10775 County Road 33, Norwood Young America, MN 55397. The cost for the Annual Permit is \$16. Permits are also available at the Park Office at Baylor Park, the Carver County Government Center located at 600 4th St. in Chaska, through the honor box systems and gate houses when staffed at both Baylor and Lake Minnewashta Regional Parks. Lake Minnewashta Regional Park is located in Chanhassen off of Hwy. 41 between Hwy. 5 and Hwy 7 .

Cherry Grove

Cherry Grove is about 20 miles south of Cannon Falls. Head south on Hwy 52. Around 6 miles south of Cannon Falls, take a right onto Goodhue County 1 and follow it around 16 miles, where it ends in a T with Dodge County A. The observatory and warming house are at your right, nestled in the corner of the T.

Date	Location	Sunset	Twilight
March 8 or 9	Baylor	19:50	20:01
March 15 or 16	Cherry Grove	18:21	20:01
March 22 or 23	Metcalf	18:30	3:20
April 5 or 6	Baylor	18:48	20:31
April 12 or 13	Cherry Grove	18:57	20:43
April 19 or 20	Metcalf	19:05	2:07
May 3 or 4	Baylor	19:23	21:22
May 10 or 11	Cherry Grove	20:31	22:35
May 17 or 18	Metcalf	20:39	1:51
May 31 or June 1	Baylor	20:53	23:16
June 7 or 8	Cherry Grove	20:59	23:26
June 14 or 15	Metcalf	21:03	0:30
June 5 or 6	Baylor	21:04	23:30
June 12 or 13	Cherry Grove	21:01	23:22
June 19 or 20	Metcalf	20:55	2:18
June 2 or 3	Baylor	20:40	22:43
July 9 or 10	Cherry Grove	20:30	22:28
July 16 or 17	Metcalf	20:20	1:00
July 30 or 31	Baylor	19:56	21:41
August 6 or 7	Cherry Grove	19:43	21:26
August 13 or 14	Metcalf	19:30	23:39
August 27 or 28	Baylor	19:03	20:41
September 4 or 5	Cherry Grove	18:50	20:28
September 11 or 12	Metcalf	18:38	22:23
September 25 or 26	Baylor	18:14	19:52
November 1 or 2	Cherry Grove	17:04	18:43
November 8 or 9	Metcalf	16:55	20:06
November 29 or 30	Baylor	16:37	18:21
December 6 or 7	Cherry Grove	16:35	18:50
December 13 or 14	Metcalf	16:35	2:28



Leonid Meteor going over Sirius

How to pay your dues

Your MAS membership expires at the beginning of the month shown on your Gemini mailing label and your membership card. Send your payments to the MAS treasurer (Chuck Jorgensen) at 1615 E. River Rd. Minneapolis, MN 55414-3627. Make checks payable to MAS. The current annual membership dues and subscription fees are:

<i>Regular membership</i>	\$16.00
<i>Patron membership</i>	\$40.00
<i>Student membership</i>	\$10.00
<i>Subscription to Gemini for members of other astronomy clubs</i>	\$4.50
<i>Subscription to Gemini for other persons</i>	\$9.00

To Renew Your Sky and Telescope Subscription

If you get *Sky and Telescope* at the club's discounted rate, you must renew your subscription through the club. When you get a renewal notice from S&T, send the notice along with a check for the amount indicated on the notice (currently \$29.95) to the MAS Treasurer (Chuck Jorgensen) at 1615 E. River Rd. Minneapolis, MN 55414-3627). Make checks payable to MAS. If desired, you may renew your MAS membership at the same time, and write one check to cover both payments.

To subscribe to the MAS e-mail list send e-mail to:
mas-request@mnaastro.org
with the single line
subscribe
in the body (not subject) of the message.

The list has about 40% of the membership on it.



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