

# Gemini

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## **Ramblings from the Fifth Annual Northern Nights Star Fest (NNSF)**

By Ken Hugill

This year was another exceptionally fun event. We had 47 attendees, which is a new record. It was also an international event, as we had observers from China, India and Canada, in addition to Wisconsin, Florida and Minnesota. We all had one common passion—astronomy. The best thing about star parties is being able to see what new things others are doing in this ancient hobby. Observing the night sky has been around since the dawn of time, yet it is always new and exciting to us amateurs. I like to find out what observing projects people are working on, what ATM projects they have completed, what new equipment they own, and the modifications they have made. Technology has allowed very advanced systems to be available to amateurs. Astrophotography has taken off and is taking over the observing field. Aperture fever has changed from the size of your mirror to the size of your chip. This year we had the same number of imagers as observers on the first night. In fact, I decided to leave behind my 17.5" DOB and try my hand at imaging myself.

I brought my Celestron 6" f/8 refractor on a CGE-5 mount. It is a nice starter yard scope without the cost of good optics. Yes, it has some issues with violet around bright objects, but overall it gives nice views. The focuser that comes with it sucks, so I splurged and picked up a new motorized moonlight focuser a week before NNSF. You know there are three prices you pay for everything you buy: the price you paid for it, the price you told your spouse you paid for it, and the price you will pay when she finds out what you really paid for it. Well, I paid my three prices and then proceeded to set up my scope in the living room to install my new focuser.

The first step was to integrate the scope with my computer. I made a cable to hook my telescope hand pad to my PC via a USB to serial dongle. I updated all the software on my PC, including a software package called APT that I use to control the scope and my Canon EOS 50D. I also upgraded a package called PHD

**Stories Wanted:** *Gemini* is written entirely by our members, for our members! *Gemini* needs your stories... how you first became interested in astronomy, how your interest has evolved over the years, equipment you use, star parties and events you've attended here and elsewhere, how you've encouraged others — especially young people — to get involved in this fascinating hobby. Submit your stories to: [brownreveugene66@gmail.com](mailto:brownreveugene66@gmail.com)

**E-mail Update:** If your e-mail address has recently changed, chances are your address used for MAS email distribution lists is not current. Please inform Bob Brose of your new e-mail address at [bob@qbjnet.com](mailto:bob@qbjnet.com)



*Observing field with Milky Way above*



*Panorama of Milky Way using ICE by Mark Connolly*

that is used with the autoguider. I ordered an AC to DC adapter for the camera; batteries die super-fast on cold nights. I had picked up an Orion autoguider and 80mm Orion scope back in 2009 to use as a guide scope; I was finally going to get a chance to use it. All this equipment talks over USB, so I put a hub on the mount and ran a single cable back to my PC. After a few nights of experimenting I had all the components working well together. I then decided to pick up a GPS for the mount; it makes setup really easy because it enters your location and time for you. I had to daisy-chain the hand pad off the GPS.

On the first attempt my hand pad did not work, but upgrading the software on the mount and hand pad did the trick. I was finally ready! I did have a few other accessories I picked up a few years ago that I have not mentioned yet. One is dew heaters and straps; another is a .8x focal reducer for a wider field of view, and a third is a couple of extension tubes and a Canon EOS T adapter. The extension tubes were required on the guide scope and in front of the camera to achieve focus. O.K., now I'm all set. Wrong. I planned to sit inside my covered trailer and run the telescope, so I needed a nice chair to sit in and nap while the pictures clicked off. As I was at Office Max making copies for NNSF, I picked up a sweet chair on closeout. I also have at least three programs running at once on my PC, so a second monitor would allow a split screen. A run over to Computer Revolution yielded a new 29" flat screen for the price of a used one. Off to the star party with all my new gadgets.

The first night we had very good skies but a ton of dew. One thing I have learned about observing in Minnesota is that you had better have good dew heaters. You first hear the buzz of mosquitoes, and then as the night cools off and the bugs disappear you hear the buzz of hair dryers.

This was the year of the sucker hole. Wednesday was the only really good night for observing. The second night was good until about 1:00 a.m. After that it was mostly sucker holes. It never fails. Go in for midnight snack under great skies and come back to sucker holes. Friday and Saturday were once again sucker-hole nights with lots of waiting and hoping for it to clear. Both nights Cassiopeia seemed like it was in an eternal sucker hole; it

was strange to say the least.

The first night we had about 50% observers and 50% imagers on the field. I heard some grumblings about white light from PCs. Next year I may segment the field between imagers and visual observers. As it was, most of the imagers were on the south end anyway. I think it's those red lights that strap onto your hat that are the real issue. They shine right into the face of anyone you are talking to.

With 47 observers attending the star party this year, I was a little nervous that we

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would have power issues. After talking over the options with Scott, the maintenance man from LLCC, I split the field in two. The north side was fed from the regular circuit panel and the south side was pulled from a pump shed south of the observing field. On Thursday morning I was told that there were sparks coming out of the junction on the south side of the field. Something had tried to pull a lot of current. I then had to drag a third circuit from across the road in the overflow parking lot; this broke the south side into two sections. These three circuits sufficed for the next few nights. I have requested that LLCC add two more circuits to the main panel; I hope this will resolve any future issues. I plan to put a couple of 100-ft. 12-gauge cords in next year's budget.

Every year there are several meteors that make the observing field come alive with oohs and aahs. This year was no exception. There was one extraordinary meteor that lit up the sky. It was so bright that people instinctively covered their eyes, thinking it was a bright car light. Steve Baranski just happened to be taking a series of wide-angle shots and caught part of this meteor.

This year we again had several very good presentations. I think we have an exceptional group of highly educated members to draw from; this makes my job easy. I hope next year is half as good as this year. Bill Arden gave a two-part lecture on the Sun. I have received numerous comments on how attendees enjoyed this presentation. Bill dove into the inner workings of what drives the solar cycle.

Professor Evan Sillman gave a presentation on the Panchromatic Hubble Andromeda Treasury (PHAT), using images from the Hubble Space Telescope (HST) in addition to ultraviolet and H-alpha observations from a variety of sources to answer questions about galaxy formation and evolution. This is one of the largest studies ever conducted with HST. The research is about resolving the stellar populations of local galaxies by using the Hubble to obtain detailed histories of star formation and



*Witch's Broom by Steve Baranski*

understand how these galaxies have evolved over time. He compared the resolved-stars technique to the star-forming regions in other galaxies—locations of high ultraviolet and/or high H-alpha emission—for an in-depth analysis of the stellar populations associated with such regions. The work is mainly focused on M31, the Andromeda Galaxy, although the university has been studying the more distant irregular galaxy Holmberg II as well. The goal is to learn about the massive stars producing the UV and H-alpha flux from which star formation rates can be estimated and possibly to characterize the high-mass end of the initial mass function. Professor Evan also explained the techniques used to finagle a large study of this kind from the tight Hubble schedule and time budget.

Bob Kerr gave a lecture on the Golden Age of Astronomy in Ireland. It appears we all have a little Irish in us. This lecture was cleverly linked to last year's lecture on Tycho Brahe and Johannes Kepler. I'm already looking forward to next year's.

Mark Peterson talked about the history of E&W Optical and the equipment he used when he worked there. He did a lot of polishing. Mark Boyd talked about constructing his new observatory, a dream come true in Buffalo. Dick Jacobson



*Dick Jacobson's 20". Notice the clever sliding weight*



*NNSF field early Wednesday night*



*The 25" f/5 and 30" f/4.5 Obsession scopes on transport carts*



*Bob Kerr lecture*



*Dick Jacobson's home-built modular 20"*



*Friday brunch*

presented his newly modified yoke-based equatorial 20" telescope. Dick is a master of problem-solving through the fabrication of custom parts. One of my ideas this year was to have all the attendees go from scope to scope and learn about the various setups. I wanted attendees to specifically talk about any ATM or homemade gadgets. I dropped the idea from this year's agenda to make room for other events, but I plan to introduce it in the 2014 NNSF.

Dave Falkner presented information on the little spacecraft that could—the Voyager missions. We now know that after 36 years of space travel, Voyager 1 left our solar system and entered interstellar space more than a year ago.

After key-holder training Wednesday night, two graduate students from the University of Minnesota, Kanika and Lizao (Larry), had a blast running the 25" and 30" Obsession telescopes. These two scopes provide splendid views of the Messier objects. The term “eye candy” really does apply here. I was able to sneak off and do some imaging while Kanika and Larry ran the big scopes for all to share fabulous views of old objects that appear new and exciting in these large scopes.

The following are some links to astrophotography done by NNSF attendees:

- <https://picasaweb.google.com/markkevc/September52013NNSF?authkey=Gv1sRgCKuEpJnl0cPSXg#>
- <https://picasaweb.google.com/markkevc/September82013NNSF97?authkey=Gv1sRgCMf57Pvb6OObdw#>
- [https://www.facebook.com/photo.php?v=10201966293177034&notif\\_t=video\\_processed](https://www.facebook.com/photo.php?v=10201966293177034&notif_t=video_processed) (Witches Broom by Steve Baranski)
- <https://picasaweb.google.com/markkevc/September62013NNSF02?authkey=Gv1sRgCOri8PC8oM3m6AE#>.



*Aerial view of the field and Bill Kocken setting up Thursday night*

By Mark Connolly. Aerial video of the scopes in the field. Mark has a small radio-controlled helicopter that takes photos and video. The link has several aerial pictures of the observing field and a Milky Way photo showing the star-party lights.

- <https://picasaweb.google.com/markkevc/September72013MilkyWay?authkey=Gv1sRgCJLHm9Cd28Lp1QE#>. Panoramic Milky Way photos from Wednesday night.



*Aerial photograph of the field Thursday night by Mark Connolly*

Mark Connolly explains his photos: “The panorama of the Milky Way is several pictures pieced together using Microsoft ICE (Image Composite Editor). Each exposure was six minutes unguided on a CG-5 mount at ISO 1600, f/4, with the 18-55mm kit lens at 18mm focal length on my Canon Rebel Xsi. The 19 exposures were combined with ICE. I used Gimp software for cropping, brightness adjustments and noise reduction. It’s fun to put Sagittarius (which was visible just after it got dark) and Orion (which was reasonably high by 4:00 a.m.) in the same photo. Later in the year I hope to take some additional exposures to extend it beyond Orion. (And someday, a trip to the southern hemisphere to extend it beyond Sagittarius.) And of course, going deeper with more exposure time would bring out more detail.”

Here are some observing reports and comments about NNSF from other members:

- “This was my fourth time, and sky conditions aside, I think it was the best NNSF I have attended. Highlights were being with other amateurs and the presentations, particularly Bill Arden’s. I also enjoyed helping out with a presentation.” Dave Falkner
- “Using my new EDGEhd 200mm/Sirius EQ-G (Thanks to Jon Foley and several MAS beneficiaries) with a 32mm eyepiece, I was able to sketch a Cygnus field and identify a variable star in it that I have been doing research on as part of an exoplanet search team. I arrived at a pretty good observing schedule by sleeping through the midnight snack and then resuming from around 2:30 a.m. to daybreak. My \$2 dew heaters worked very well for the engorged ambient. These are modified Axman insulated nichrome twine, split in the center and joined for 4x 12v Kendrick power. They easily wrap around an eyepiece and are permanently secured with rubber cable tape. I bought Ken’s remaining twine supply at asking price during the swap. The opportunity to try out MAS eyepieces in my setup helped me reject all available Televue except Ethos for my instrument.” John Krawczak
- “I was there on Friday and Saturday nights—the two worst

nights. The skies were mushy at best with constant high cirrus clouds. The best times were usually quite early in the morning. Even so, I got close to bagging the necessary 20. Friday night: M1, ET cluster, M45, NGC 663, 7789, 957, and the Pacman Nebula (I must have been looking through a sucker hole because I could see the nebulosity, even without the UHC filter). Saturday night: Alberio, Cat's Eye Nebula, M74, M92, NGC 6503, 6823, 7331, 7814, Pinwheel Galaxy. However, like all NNSFs the best part of the experience was the camaraderie, as well as the excellent speakers. Kudos to Bob Kerr for his rendition of *How the Irish Saved the Night Sky*, by Jerry Jones.



*Ken Hugill's 6" CRT-CGE5 being prepped for NNSF*

- “For me, the highlight of NNSF was seeing the supernova in M74. It was easily visible in my 20" Newtonian. It appeared about equal in brightness to the arc of fairly bright stars that surrounds the galaxy to the south. I didn't try to estimate the magnitude. Another highlight was the rotating globular illusion. I've never heard of anyone else experiencing this, and maybe it's just me, but sometimes when watching a globular drift slowly across the field from right to left, I get a powerful sense that the entire cluster is rotating to the left. M15 seems to generate a particularly powerful illusion. I



*Ken Hugill's imaging rig and command center*

think it's because of the many bright red giants in the outskirts of the cluster. At around 200x in my 20" I would swear that the cluster is rotating if I didn't know better.” Dick Jacobson

Everyone I talked to stated that this was the best NNSF yet, even though the skies were not the best. The lectures, camaraderie and facilities made it all worthwhile. The food was very good, and the personal showers in each room can't be beat.

You will have to wait for the next edition of *Gemini* to find out how my first real attempt at imaging went. Hope to see you all at NNSF 2014. 🍷



*Typical NNSF sucker hole weather*

## Fall Astronomy Day—Saturday, October 12 Eagle Lake Observatory at Baylor Regional Park

By Merle Hiltner, Eagle Lake Observatory Chair

The 2013 Fall Astronomy Day was a very successful event, despite starting the day's activities with cloudy skies that made the planned solar viewing impossible. The estimated attendance was over 200 guests; the new HotSpot Classroom was filled to capacity and beyond for our presentations and prize drawings.

MAS president Dave Falkner gave a very entertaining and informative presentation on the Voyager 1 & 2 spacecrafts, followed by Bob Kerr's presentation on everything you need to know about the upcoming "comet of the millennium," comet ISON. After the dinner break, Ron Schmit gave his presentation, "Amazing Star-Gazing" tackling the questions of "What's out there," "Where can you find it," and "How can you see it?"

By now, with sunset approaching, the skies were clearing and guests were treated to views of Venus, Mercury, Saturn and the Moon. While not the best views of Mercury or Saturn, as both were very low in the western sky, those who were able to look through the telescopes at these planets were thrilled to see them.

One guest in particular had never seen Mercury before and was very appreciative to have the chance to see the broiling planetary disk. Even views of Saturn, some of the worst I've seen, were met with oohs and aahs.

The day's events continued with the door-prize drawing, and for the first time at Fall A-Day, a raffle drawing. A pair of Celestron 12x60 binoculars was the door prize, won by Fred Lange. The raffle drawing followed with the grand prize of an Orion 8" SkyQuest telescope, which was won by Daniel Jacobson.

Ron Schmit concluded the scheduled events for the day with his laser tour of the sky, as the skies were now completely clear. Viewing continued until past 10:00 as the crowd thinned into the cool fall evening. Overall, the day was a huge success. In fact, it was one of the few times all year that the skies were clear for viewing. That in itself was a reason for celebration.

Of course, the day would not have been as successful without help from the many MAS members and non-members who helped get everything completed and organized. In the final week leading up to the event, the guys at Baylor Park were able to complete the exterior grading and railings to the satisfaction of the building



A pair of Celestron 12x60 binoculars was the door prize, won by Fred Lange.



The raffle drawing grand prize was an Orion 8" SkyQuest telescope, won by Daniel Jacobson.



inspectors. With this accomplished, we received the occupancy certificate allowing us to fully utilize the new HotSpot Classroom and Sylvia A. Casby Observatory.

In the last few days, the interior of the HotSpot was still being worked on. Many thanks to the MAS members who volunteered their time to get this finished and the buildings cleaned. It was greatly appreciated to have a large, warm room for our guests to get out of the evening chill.

Finally, thanks to our speakers, Dave, Bob and Ron, for their great presentations, to the Eagle Lake Observatory key-holders for operating the telescope platforms and entertaining our guests, and to the MAS members and guests who made the day a memorable one.

### Schedule of Events

- 2:00 pm: Solar observing, daytime viewing of Mercury, Saturn, Venus, the Moon and Mars. Tour of observatory, activities and crafts for kids.
- 3:00 Dave Falkner: “The Voyager Spacecraft: 36 Years of Discovery”: This presentation took the audience from the creation of this famous NASA mission, through the spacecrafts’ historic fly-by of Jupiter, Saturn, Uranus and Neptune, to their recent passage from the solar system into interstellar space.
- 4:00 Bob Kerr: “Are You Ready for Great Comet ISON? Comets: Where They Come from, Where They Go.” In the

late fall of 2013, Comet ISON (C/2012 S1) has the potential to be one of the brightest comets in recorded history. Guests found out what they needed to know about when and where to look for this extremely rare event.

- 5:00 Dinner Break
- 6:30 Ron Schmit: “Amazing Star-Gazing” What’s out there? Where can you find it? How can you see it? Guests learned to explore the night sky, no matter their level of experience. They learned the basics and also about some tools that can help them along the way. There are wonders to behold, and they are all available every night, if you just look up!
- 7:30 Door Prize Drawings and Raffle Drawing
- 8:00 Ron Schmit: Sky Tour

### Evening Activities

The evening continued with viewing through our array of telescopes. The Moon, Saturn, Mercury and Venus topped the list of astronomical delights. Neptune and Uranus were also in prime viewing locations, and Jupiter, rising at 10:30 p.m., was the highlight of the evening. Guests and MAS members at the Fall Astronomy Day bade farewell to the best summer constellations, nebulae and clusters and enjoyed the arrival of some of the fall’s and winter’s best while the Minnesota temperatures are still relatively balmy. *Photographs by Father Brown*



## MAS Patron Members

MAS offers a patron membership to those members who wish to contribute a little extra to help support MAS activities. Patron memberships are established by constitution at 2-1/2 times the regular membership rate—currently \$70 annually for a patron membership. The \$42 additional contribution is tax-deductible. It is used to fund equipment acquisitions, facility improvements, further outreach activities and more. We would like to thank the following patron members as of November 16. 🐾

Hytham Abu-Safieh	Michael C. Conley	Greg Haubrich	Brad Linzie	Cindy Smith
Tom and Arlene Alm	Mark Connolly	Thomas E. Hawkinson	Sridhar Mahendrakar	Drew Smith
Scott D. Anderson	Mike Daniels	Michael P. Haydock	Brian McEnaney	Gerald Smyser
William Arden	Paul and Jolie Davis	Jonathan Hayman	Ron McLaughlin	Geoffrey Stone
Jack W. Atkins	Mary Beth Smith & Ted	Victor H. Heiner	Javier Medrano	Todd M. Thyberg
Rajib Bahar	DeMatties	Ric Heins	Rebecca & Gary Messer	David Toole
Steve Baranski	Mary L. Dennis	Lauren Hoen	Beverly D. Miller	David Tosteson
Greg Baril	Courtney Dietzmann	Dan Holmdahl	Bob Minor	Valts Treibergs
Bradley Beisel	Russell I. Durkee	Michael Hopfenspirger	Alan Noot	David Truchot
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Scott Billeadeau	Dennis Faith	Gale Jallen	Becky Pollack	Steve Ulrich
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Collin Bonde	Joe Fisher	Chelen H. Johnson	Kirby Richter	David E. Venne
Rev. Eugene M. Brown	Lisa Forrence	Julie A. Y. Johnson	Stephen Riendl	Paul C. Walker
Jonathan Burkhardt	Robert Foucault	Jerry Jones	Jack Sandberg	Fred Wall
Jeff Burrows	Andrew D. Fraser	Daniel G. Kaminski	Roy Cameron Sarver	Don Windseth
William Bynum	Paul Gade	Ron Kasel	James L. Schenz	Brian Wray
Ken Carlson	William H. Glass	Jim Knudsen	Loren Schoenzeit	Gene Yates
Kurt A. Casby	Steve Grabarkiewicz	David Kocken	David A. Schultz	Neal R. Zimmerman
Joseph Chiodin	Lawrence F. Gray	Parke W. Kunkle	Robert J. Seabold	
Steven M. Christenson	Jere N. Gwin-Lenth	Louis M. Leichter	Dan Siers, Sr.	
Deane R. Clark, Jr.	Dale Hagert	Clayton Lindsey	David E. Siskind	

## MAS Board Minutes for September and October

by Roxanne Kuerschner, secretary

### September

**Eagle Lake Observatory:** The external jobs are done but there is still work to do. The interior of the classroom needs to be finished so the heater can be installed. It would be good to meet with Marty and discuss progress and expectations that the park has for the project. **Award Pins:** Jerry is willing to help with award pins.

There are some questions to figure out before this is ready to do, but it should be up and running by 2014. **Joseph J. Casby Alarm System:** Dave will follow up to see where they are with the alarms. **Recognition of Onan Donors:** The cost of the plaques is \$65-\$250, depending on the size of the plaque. Engraving each plaque with the names would cost \$10, so \$550 would cover enough plates as the list continues to grow. The other idea is to use a screen and have the names scrolling through and events listed. The original purpose was to recognize those who donated \$1,000 or more with a plaque at Onan. We could have a plaque for those who donated to Onan, a plaque for those who donated to the classroom, and maybe still investigate the screen idea. For roughly \$175 a plaque can be created for the original donors at Onan.

**Dark Spots:** These would be places where folks can go to observe meteor showers and other events. We will try to find a member who will look into locating some dark spots. **Preemptive Media Contact for Comet ISON:** We will get media suggestions to the news group when the time and prediction is better. **Dark Sky Site near Milaca:** No one right now is interested in pursuing this.

Dave will contact the gentleman about joining our forums and posting his offer himself so that we are not liable/responsible for anyone who would show up. **Membership Database Updates:** Greg has been in contact with Steve and Earl to look at reformatting the database to sort the information. There has been some concern about publishing the address of members. Steve suggested that it might be a good idea to include the city. If we go electronic for *Gemini*, how will we get out the list? Probably we would still do a one-time mailing of the list. The question is how we are

going to transfer over to the non-*Gemini* option. We just need to pick a date/month for when we will roll over to the non-*Gemini* amount. The dues will be the same, but if you want a paper copy the cost will increase. The deadline will be February 1 for all new renewals to opt out of a paper copy of *Gemini*. **Membership Drive Opportunity:** There was an email from Steve about a gentleman who can do a membership drive. Should we open this up to other vendors as well? Dave will call him to see what he could do to increase membership. **Use of Facilities for Non-MAS Fund-Raisers:** Is this something we want to do? There need to be guidelines about what is expected/allowable, possibly with a donation to the club. This has to be universal with all sites. There will be more discussion later. **Volunteer for MAS election:** October will kick off the next elections.

### October

**Award Pins:** There is no further progress on this. Dave will talk to Jerry Jones about determining the list of items. **Recognition for Onan Donors:** Clayton will do an Internet search for the plaques; they should be cheaper than a local business. A nice wooden plaque with the names engraved underneath should be ready to order by the next board meeting. **Dark Spots:** Dave will see if Jerry knows of any sites. We could post something on the forums. **Preemptive Media Contact:** Comet ISON is coming up.

Roxanne will send a message to the media people about the comet star parties. **Membership Database Updates:** Greg has not heard from Steve about the updates we have suggested. Greg will check with Steve. We need to have it done by November 15. **MAS Election Updates:** Greg sent out an email requesting nominations. We need nominations for treasurer, board member at large, and vice president. **Eagle Lake Observatory Update:** There were several successful workdays. The inside of the classroom has walls up, ceiling up, tongue and groove on the south wall are done, two walls in the observatory are up, the outside was graded. It is coming together, but trim is still needed. It seats about 70 right now but probably could seat 80 if we arrange chairs differently. The park wants the complete circle paved around the observatory. Part of the problem is the cost of the concrete. **Sam Swiss Offer:** He



has a connection with Lumicon and has offered to provide gift certificates for new members. Unfortunately he is in California. All new members and all renewing members would get a code for \$25 off Lumicon or Parks Optical. There is the possibility of getting some prizes for events. We will have to exclude members who opt out of having their information published by MAS. If we do this, we need to have a disclaimer on our renewal forms. Clayton will put information on our website/forums/list serve informing members of this decision. **Gemini Going Green:** Mark is creating a list of things to be done during the transition period. The plan is to reduce dues to \$26 if you do not get a paper version of *Gemini* and add \$9 if you do. Patron membership will be \$65. We will try this for one year and then reevaluate. The cost for a paper version may go up if we go below the breakpoint number. We won't make the announcement until the database is done. Lifetime members will get a copy free until we completely do away with the paper version. **Annual MAS Member of the Year Award:** The recipient was decided. **New Meeting Projector:** Dave has had comments about the quality of the projector for the monthly meeting. We will use the one from the community center for the next meeting and see if the quality is better. **Non-profit Learning:** Clayton handed out a folder of information about the MAP organization. They provide services for non-profit organizations. Roxanne will check

on the insurance policy to see if there is a liability policy to cover board members. We have to make sure that we provide forms for donations larger than \$250. **Computer at Joseph J. Casby:** We created profiles on the Casby computer. A user does not need to log in; only the administrator needs a password. Clayton and Kurt cleaned up the computer, since there were some files that needed to be removed. **Financial Summary at Monthly Meetings:** It was mentioned to Dave that there are organizations that provide a monthly financial statement. Dave agrees that we could be more transparent about our month-to-month account. It does not have to be a big spreadsheet, just a short summary or graphical report to show to the membership. Clayton and Dave will meet with Chris to discuss what is needed. The budget is coming up soon; we need to focus on getting all the finances in order. **Maintenance at Joseph J. Casby:** Clayton will post on the forums about some items that need to be addressed. There is water damage on the corner of the door and some repainting to be done. Bugs that walk across the face of the alarm will set it off. It needs to be disconnected. Nancy mentioned renewing the memo of understanding with Belwin and MAS. **Site Maintenance Plans:** We need to get a plan in order for the sites. LLCC has the 30" that will need recoating very soon. There is also some work that needs to be done at Onan. We also have to set goals for next year. 🐾

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## Candidates for MAS Board

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### Steve Baranski, Candidate for Vice President

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I have been involved in MAS since October of 2008, when I came out to Onan Observatory for a public night. I found out about the club by doing a search on the Internet for astronomy clubs, in the hope of getting some instruction on how to use a hand-me-down Meade ETX 125. I wanted to use it to further my outdoor scenic photography, including the night sky. My eyes were opened to the many knowledgeable and like-minded people in the club and the fantastic equipment it provides.

My interest in astronomy is varied. Photography is what brought me to MAS. Outreach events are very rewarding—seeing

the joy and wonder in peoples' faces when we share views and information about the night sky. The camaraderie and enjoyment of the night sky at star parties has become a wonderful way to spend my evenings.

I have been happy to participate in the loaner-scope program, multiple outreach activities, star parties and work parties. I enjoy being an active member of the club and offer my services as a candidate for vice president.



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### Ric Heins, Candidate for Vice President

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I have been involved in MAS since joining shortly after my first visit to Onan Observatory for Fall Astronomy Day in 2011, but my interest in astronomy goes back quite a bit further. During my high school years near Lake Mille Lacs, I was fortunate to attend a boarding school with dark skies, a great physics teacher, and a well-equipped observatory with a 12" reflector and photo lab, among other gear. My nights in the Northern Cross Observatory Astronomy Club brought me to the wonders of the sky and the thrill of observing them that the members of MAS know well. Imaging with manual guiding and chilled glass plates taught me to love the results that only lots of trial-and-error can bring.

My studies and career eventually took me away from astronomy, at least at the level I enjoyed it at the beginning. I moved back to the Twin Cities, attended college at the University of Minnesota (Yes, I did take some astronomy classes), and ended up pursuing a career in graphic computing at Control Data, ETA Systems. I then moved into the video graphics business with a local television production company. In 1996 I started my own video production company. I currently have offices in downtown Minneapolis and provide post-production services for corporate, broadcast network and non-profit clients.

As my children grew up, I got involved with scouting and have served as a leader for 12 years, taking many young boys and girls into the outdoors and showing them the night skies when I've had the opportunity and in the process reconnecting with the hobby that I grew to love as a youth. I continue to be involved with scouting, both with youth and in training adult leaders. I see great opportunity in the possibility for astronomy outreach with that organization.

While looking for places to go with my kids' scout groups, I came across MAS and all the great people and equipment associated with it. I have benefitted greatly from the club BSIG meetings, monthly meetings and forum discussions, and through serving as the outreach coordinator for the last year or so. I love to share my enthusiasm with those who seldom have the opportunity to venture outside our light-polluted cities, through public nights and other outreach activities. I am eager to serve MAS in whatever way I can, so I submit my name for consideration as vice president. *Continued on page 10*



## Directions to the Star Party Locations

For maps and further details about the sites, please go to our website at [www.mnastro.org/facilities](http://www.mnastro.org/facilities).

### **Baylor Regional Park and Eagle Lake Observatory**

To reach Baylor Regional Park, head west on Minnesota Highway 5, through Chanhassen and Waconia, to the town of Norwood-Young America. Turn right onto Carver County Road 33 and continue approximately two miles north. Baylor Regional Park is on the right side of the road, marked with a prominent sign. When entering the park, stay to the right and follow the road approx 1/4 mile.

When visiting the Baylor Regional Park, MAS members are requested NOT TO PARK OR DRIVE on the grass. There is a drive up to the observatory which can be used for loading or unloading or handicapped parking only.

For an alternate route from the southern suburbs, take U.S. Highway 212 west to Norwood-Young America. Turn right at the second traffic light onto Carver County Road 33. Continue two miles north to the park entrance.

### **Cherry Grove**

Cherry Grove is located south of the Twin Cities, in Goodhue County, about 20 miles south of Cannon Falls. To reach Cherry Grove, head south on Highway 52. On 52 about six miles south of Cannon Falls, and just past the Edgewood Inn, is a large green highway sign for Goodhue County Rd. 1 "WEST". Turn right, and follow County 1 straight south for about sixteen miles until you arrive at a "T" intersection with County A. The observatory is immediately at your right, nestled in the shoulder of the "T". Parking is permitted on the site, or along the road, preferably County A.

### **Metcalf**

Head east from St. Paul along Hwy. 94. Exit at Manning Avenue ( exit #253) Turn south (right turn) and then almost immediately turn left onto the frontage road (Hudson Road S). Continue east on the frontage road for about 1.5 miles. Turn right onto Indian Trail, checking the odometer as you turn. Follow Indian Trail south for just about 1.1 miles, where you'll see an unmarked chain-link gate on the right, opening onto a dirt driveway with slight up-slope. This is the entrance to Metcalf.

Belwin / Joseph J Casby Observatory

Head east from St. Paul along Hwy. 94. Exit at Manning Avenue ( exit #253). Turn south (right turn) and then almost immediately turn left onto the frontage road (Hudson Road S). Continue east on the frontage road about 3.4 miles until Stagecoach Trail South, then turn right onto Stagecoach Trail and go east about 2 miles until reaching Belwin Conservancy on your left at 1553 Stagecoach Trail South. From the Belwin driveway entrance, travel about 500 feet and turn left at the gate. Travel about 1/4 mile through the woods until you emerge at the parking area near the classroom building and the Joseph Casby Observatory.

### **Long Lake Conservation Center**

#### **From Western Twin cities**

Take I-94 west to Rogers/MN 101. Go north/right on MN 101 through Elk River, where MN 101 becomes USA 169. Continue north on US 169 approximately 90 miles to Aitkin. At stoplight in Aitkin, turn east/right onto US 169/MN 210 and go out of town eight miles. Then turn east/right, following MN 210 toward Duluth. Proceed seven miles. A large green highway sign marks the turn off 210 to Long Lake Conservation Center. Turn north/left on County Rd. 5. After three miles, turn east/right on gravel County Rd. 88. It is approximately one mile to the LLCC gate. Follow signs to parking and unloading areas.

#### **From Eastern Twin cities**

Go north on I-35 to Finlayson/Exit 195. Turn west/left and go one mile to County Rd. 61 and MN 18. At stop sign turn right/north and go two miles. Follow MN 18 west/left and continue 19 miles to MN 65. Turn north/right on MN 65 and proceed 30 miles to McGregor. Intersect with MN 210 and follow 210 west/left (through McGregor) for seven miles. A large green highway sign marks the turn off MN 210 to Long Lake Conservation Center. Turn north/right on County Rd. 5. After three miles, turn east/right on gravel County Rd. 88. It is approximately one mile to the LLCC gate. Follow signs to parking and unloading areas.

### **John Hill, Candidate for Board Member at Large**

I grew up in the Southern California area, where I greatly benefited from outreach and advanced science training programs that became increasingly prevalent after the USSR beat America into space. My introduction to astronomy was from regular visits to the Griffith Park Observatory. My first telescope was a 3" Edmond Scientific reflector that I assembled from a kit in 1957, followed several years later by the purchase of a 6" Astrola reflector from Thomas Cave's shop not far from where I lived. I still own the Astrola because it has become a classic example of early commercially available telescopes and because of the impact it made on my intellectual development.

I have advanced degrees in the areas of chemistry, radiation biology and microbiology and have managed R&D activities for a number of companies around the country. My wife and I returned to Minnesota in 2001 after living here in the late 1970s

while I completed post-doctoral work at the U of M. Most recently I have been an independent scientific and regulatory consultant, but I am finally moving into full retirement.

Instead of being actively involved in astronomy in recent years, I have built up a small collection of meteorites, including most of the pallasite group available through dealers. Although I am a relatively new MAS member, I have been active in volunteering for public night activities at Eagle Lake because of the enormous influence that science outreach activities had on my professional development and quality of life.

*Continued on page 11*



# Minnesota Astronomical Society 2013 Star Party Schedule

Friday Date	Sunset:	Twilight at:	Completely dark from:	Completely dark to:	Moon % Illuminated	Eagle Lake public night	Cherry Grove	LLCC Weekend	Notes
Dec 06	16:26	18:14	21:08	05:52	24%	Dec 07			Special Event - Comet ISON
Dec 20	16:28	18:18	18:18	20:00	87%	Dec 21			Special Event - Comet ISON

LLCC nights indicated with an "\*" instead of an "X". We will be sharing the facility with other groups. Not all of the lights will be extinguished.

This schedule is subject to change. Please check the MAS online calendar at [www.mnastro.org](http://www.mnastro.org) for a complete schedule of all MAS events. Cherry Grove Star Parties are held on Friday nights, with Saturday reserved as the backup night if Friday is cloudy. LLCC Star parties are held on both Friday and Saturday night. Eagle Lake public nights are held on Saturday nights only.

The **Casby Observatory at Belwin** is available to MAS members who have completed the Belwin Orientation and training to use at any time. We will not have scheduled star parties at Casby. To reserve the observatory for yourself, please post your request on the Casby Observatory Keyholders discussion forum.

The **Metcalf Observing Site** is available to MAS members at any time. We do not have organized, scheduled star parties at Metcalf. Feel free to head out there whenever you wish.

The **Eagle Lake Observatory** holds regularly scheduled public nights. You are welcome and encouraged to bring your own observing equipment to these events. All other nights the observatory is available for trained members use. To reserve the observatory, go to the Eagle Lake reservation calendar at <http://www.mnastro.org/onankey/reservations/reserve.php> Before heading out, Please check the Eagle Lake reservation calendar to verify if there is a outreach event scheduled.

In 2013 daylight saving time begins March 10 and ends on Nov 3.

## Wayne Boline, Candidate for Board Member at Large

Some of my earliest memories focus on astronomy: My father pointing out the big dipper and later seeing my first "shooting star" on a vacation in rural Texas. My interest in astronomy simmered until I bought an ETX-70 in 2001. An 8" catadioptric purchased in 2010 accelerated the excitement.

I've been a MAS member since 2007, immediately joining after my first visit to a public night. I'm currently on the LLCC committee. I've been delighted to occasionally assist with "show and tell" at LLCC and public nights at Eagle Lake. Sharing the wonder of the universe and providing an opportunity for others to experience the joy of discovery is rewarding

I retired from Hennepin County Medical Center in 2006 after 30 years, much of it as a mid-level manager. I continue to work there part time, providing data-mining services, using fancy formulas and creating pretty charts, and helping others understand where they have been and where they are going.

I look forward to aiding MAS programs, supporting and encouraging members as well as community outreach.

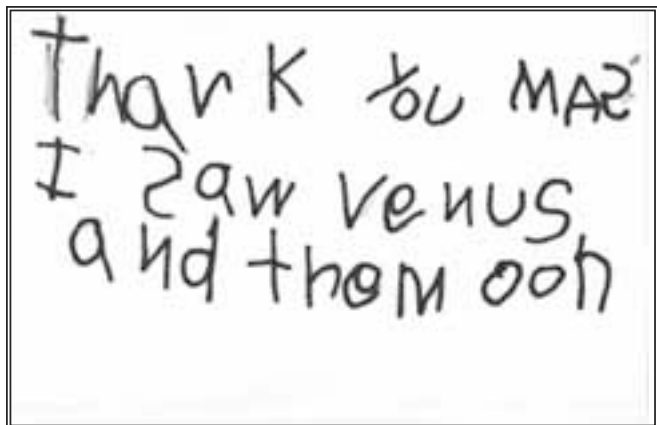


## A Thank-You from a Five-Year-Old

Dear MAS:

Last summer we attended Camping with the Stars at Baylor Park. We had a great time and Wyatt (5 years old) won the Orion StarBlast 4.5" reflector. He was so excited to win the telescope and has gotten a lot better observing planets and stars. Pictured is Wyatt looking at the Moon. That night we also saw Venus, partially illuminated. Thank you, MAS. 🐾

Wyatt's Dad





## MN ASTRONOMICAL SOCIETY

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### How to pay your dues

### December 2013 Volume 38 Number 6

Your MAS membership expires at the beginning of the month shown on your *Gemini* mailing label. Send your payments to the MAS Membership Coordinator at: Minnesota Astronomical Society, Attn: Membership Coordinator, P.O. Box 14931, Minneapolis, MN 55414. Make checks payable to MAS or you can pay by PayPal on the MAS web page. The current annual membership dues and subscription fees are: \$28 for regular membership (\$60.95 including a *Sky and Telescope* subscription discounted to the annual member subscription rate of \$32.95); \$70 for patron membership (\$102.95 including *Sky and Telescope* subscription); \$14 for student membership (\$46.95 including *Sky and Telescope* subscription).

### To Renew Your *Sky and Telescope* Subscription

New subscriptions to *Sky and Telescope* at the MAS member discount must be sent to the MAS for group membership subscription processing. Send new subscriptions with your MAS membership to the attention of the Membership Coordinator at the MAS at the Post Office box address shown on the back cover of the *Gemini* newsletter.

You may mail your subsequent subscription renewal with payment directly to *S&T* or renew via phone with Sky Publishing at 1-800-253-0245. This method is especially beneficial to those who wait until your subscription is about to expire before renewing *S&T*. If you wish, you may still submit your *S&T* subscription renewal to the MAS when you renew your membership in the MAS and we will enter your renewal on your behalf just as we always have done.

You will still need to send in your MAS membership renewal to the MAS Membership Coordinator at the MAS Post Office box address or renew your membership via *PayPal*.

### How to Subscribe to MAS e-mail Distribution Lists

The MAS uses web Discussion Forums and e-mail distribution lists for timely communications. We highly recommend you subscribe to the MAS general distribution email list.

To subscribe to the MAS e-mail list visit: <http://lists.mnastro.org/mnastro/listinfo/> and follow the subscription instructions.

There is a general list (MAS), several Special Interest Group (SIG) lists and other lists for special purposes. Archives of the lists are also available by visiting the listinfo page for a specific list.