

SPECTRUM

Northern Cross Science Foundation Newsletter

September 2015

Looking Up

September 3, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

September 5 Saturday

Evening With Nature

7:00 p.m. - 11:00 p.m.

Ice Age Visitors Center

September 12, Saturday

Community Campfire

7:00 p.m.—10:00 p.m.

Pike Lake State Forest

September 17, Thursday

Board Meeting

7:30 p.m.

Home of Jeff Setzer

September 18, Friday

Public Viewing Night

7:00 p.m. - 11:00 p.m.

Harrington Beach

September 19, Saturday

Public Viewing Night

7:00 p.m. - 11:00 p.m.

Harrington Beach

September 30, Wednesday

Family Fun Night

6:00 p.m. - 8:00 p.m.

Lac Lawrann Conservancy

October 1, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

October 10, Saturday

Luminary Walk

7:00 p.m. - 9:00 p.m.

Lac Lawrann Conservancy

NCSF Imager Highlights...by Ernie Mastroianni

Although smoke from Canadian wild fires cast a haze over June skies, it cleared by mid-July resulting in many transparent nights for observers at Harrington Beach State Park.

Chad Andrist took this shot of the **North American Nebula** in July, using a CentralDS CDS-600d camera (Canon EOS re-engineered for astrophotography) on an 8" Boren-Simon astrograph. He processed the image using PixInsight software.



Rob Powell found time to take some photographs while hosting several impromptu public viewing nights at the Plunkett Observatory that drew large numbers of visitors.

His 30 second exposure of the **Plunkett Observatory under the wide expanse of the Milky Way** was taken with a Canon DSLR EOS 7D and an 8mm fisheye lens at f/3.5. The view extends from Polaris at left to the southern regions of the Milky Way on the right.



Ernie Mastroianni opened the observatory on August 12 for visitors who came to view the Perseid meteor shower. While there, he took this 6-minute exposure of **M-27** using the club's 5-inch refractor and an unmodified Nikon D300 DSLR.



The Imaging Committee continued to tweak the refractor and mount for photography and public viewing. Mastroianni wrote a quick guide for observatory leaders to use the refractor on public viewing nights and provided hardware to connect the computer to the mount. Jamie Hanson

is writing an imaging guide, and Andrist added a power strip for the refractor and is working on a Bahtinov mask for improved focusing accuracy. The committee is also discussing a design for a fold away desk to hold computers and other gear during imaging sessions.

August Meeting Minutes

By Secretary Kevin Bert

The August Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. President Jeff Setzer opened the meeting at 8:20pm and welcomed 33 members and guests. He then asked for standard reports.

Treasurer Gene DuPree tells the membership that the regular accounts balance is \$8,450.77 and the observatory account balance remains at \$1,109.06.

Secretary Kevin Bert reports that Joe and Mark Aldstadt are the newest members. Kevin is happy to report that the Northern Cross was the North Central region winner of the Horkheimer Library Telescope. The Grafton USS Liberty Memorial Public Library will be the recipient of this StarBlast Telescope. Several modifications will need to be made to the telescope before it is ready to be turned over to the Library

some time in October.

Observatory Director Dan Bert says all was running well at the Observatory. Rob Powell has had time several days to entertain campers and a group from Homestead High school. Dan is looking for an August 22nd Observatory Leader to run the Public Viewing Night.

Nolan Zadra reports that the imaging committee members were active working with details relating to the equipment. Ernie Mastroianni has finished a short two-page tutorial on operating the CGE Pro mount. Committee members will be mailed a PDF file to look over. A copy will remain in the observatory for anyone that would like to run that mount, which holds the 127mm Explore Scientific refractor for visual use or imaging. Jaime Hanson has been working with and installing computer acquisition and processing software for imaging on a laptop that will remain out at the Observatory. He has underway a cookbook manual on

operating this imaging equipment. Chad Andrist had donated an Orion 50mm guide scope for use with the imaging system and a special Bahtinov focusing mask is on order. A south wall swing out table and power strip is on the wish list too. Thanks to all those members and others for their help in getting this imaging system ready and simplified that all members can use in the near future.

Jeff Setzer covered upcoming events for August 7th is the West Bend Regner Park Cache-Bash. August 8th is the Concordia Lake Moon Festival at Concordia Mequon. August 21 & 22 are public viewing nights at Harrington Beach. The 22nd is also a night of viewing at Glacier Hills Washington County Park.

With no further business Jeff closed the meeting at 8:55 pm.

Things to See in the September 2015 Night Sky...By Don Miles

Mercury & Pluto: Mercury closely follows the Sun this month, and soon after mid-month will be too close to safely glimpse. Early in the month it's highest at sunset, and it actually will be at its greatest eastern elongation the evening of the 3rd. In case you don't remember, greatest elongation is a term describing the point a planet is furthest away from the Sun (from our vantage point) to the West or East. If the planet is following the Sun, it will be termed *eastern* elongation because it's to the East of the Sun, and vice-versa. It's at about (mag 0.2) sets about 45 minutes after sunset. Mercury will slip closer and closer to the setting Sun, but try not to confuse the fairly bright star Spica (mag 1.0) with brighter Mercury. Spica will remain to the left (East) of Mercury, and remains stationary while Mercury will noticeably pick up the pace around mid-month in its slide rate towards the Sun as it works its way around the "front" side this time. Pluto is already high in the sky as the Sun is setting, and is still at (mag 14.1). It'll set around (2am/midnight), so if you have your sights set on seeing Pluto this year, it is still quite possible, and still relatively comfortable.

Saturn: Is the next object to enjoy before it gets too late. It is highest in the sky at sunset, but won't itself set until about (11/9pm). It's a little dimmer (0.6 mag) and smaller this month, and will continue that trend thru mid-October. The rings remain tilted at an excellent angle to view the gaps or "divisions". Try to get out and enjoy the view while it's still higher in the sky, and the temps are still comfortable. Maybe invite the neighbors for a glimpse? You'll

probably give them an opportunity that they've never had before, and may think twice about putting up the mega-bright dusk to dawn light that was on sale. Who knows... Saturn may even spark an interest in them that we amateur astronomers enjoy?

Neptune & Uranus: Neptune is the first of the pair to rise, and will around sunset. It transits by about (1am/11pm), and sets around (sunrise/4:30am). It's at (7.8 mag) in the constellation Aquarius. Uranus is the next to rise, and does by about (9/7pm). It's at (5.7 mag) in the constellation Pisces. Not a whole lot happening here, but still interesting if you're looking for new targets, and haven't hunted them down before.

Mars, Venus, & Jupiter: All three are morning objects and rise before sunrise. Mars starts the month rising ahead of Venus, but because it's an inner planet, changes usually happen fast. This is the case this month, and after about the first week, Venus will take and keep the lead ahead of the following Sun until almost the end of October. Mars rises about (4:30/4am), and is at (1.8 mag). It will continue to rise earlier and earlier thru late spring of next year when we'll pass close to each other on our paths around the Sun. When you find Mars, you'll see a definite orangish' hue as you're passing by, and you'll notice it's not a pinpoint of light like a star would be, but has a round shape no matter how you adjust your focus. As you would think, the closer we get to each other, the larger the image, and more detail you'll be able to pick out. Venus will be close to Mars, but will be crazy-bright. It's at (mag -4.5), and is brighter than anything

in our skies besides the Moon & Sun. It rises about (4:45/3:30am), and if you look close over the course of a couple of weeks, you'll see the changing phases not unlike our Moon. If you use a Moon filter, you can cut down on some of the glare, and it will be more comfortable to view. Jupiter is next to rise, but will be too close to the closely trailing Sun to comfortably view for the first week and a half. It rises about 5:30am by mid month, and by 4:30 towards the end. It's also bright (mag -1.7), but nothing compared to Venus. Try to pay attention (and maybe even crudely jot down so you can look back and see the changes) to all three of their positions in relation to each other. Over the course of the next two months, the three will go from being separated by over 21 degrees, to less than 5 degrees by late October, and all jockey for lead position in the trio. The month starts with Venus almost 9 degrees below the ecliptic and Mars, but will soon move higher in the sky, and start to move along the ecliptic to tighten the grouping with Mars & Jupiter. Mars and Venus start the month in the constellation Cancer, but will both slip eastward into the constellation Leo where Jupiter has been waiting for them.

Moon:

September 5th: Last Quarter

September 13th: New Moon

September 21st: First Quarter

September 27th: Full Moon

No meteor showers worth mentioning, will be mostly be washed out by the moon.

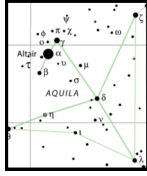
September General Meeting

101 Class...By Kevin Bert

Types of Star Charts.

We will take a look at the popular types of charts that are available.

Constellation of the Month:
Aquila



Main Program By Kevin Bert & Jeff Setzer

“Horkheimer Library Telescope”

Discussion will be on the Orion 4.5 inch StarBlast telescope our Club recently acquired, thanks to the Horkheimer Library Telescope Program. It will be donated to the Grafton public Library later this year. Jeff and Kevin will tag team this Program.

RELATED INFO

Leaders for Public Viewing

September 5

Ice Age Visitors Center
Jeff Setzer

September 12

Pike Lake
Gene and Charlotte DuPree

September 18

Harrington Beach
Leaders Needed

September 19

Harrington Beach
Leaders Needed

September 30

LacLawrann
Rick Kazmierski

October 10

LacLawrann
Rick Kazmierski

October 16

Harrington Beach
Leaders Needed

October 17

Harrington Beach
Leaders Needed

October 17

Horicon Marsh Ed Ctr.
Gene and Charlotte DuPree

October 24

Harrington Beach
Gene and Charlotte DuPree

August Public Events

Geocaching Festival, August 7th

Cancelled due to bad weather

Concordia College, August 8th

Large event, viewing was clouded out

Harrington Beach, August 21st

By Charlotte DuPree

The clouds started out thick as we opened the observatory. We were able to look at the first quarter moon until it was dark enough to get the 20 inch going. Gene brought along an 8 inch cassegrain that he wanted to see how well the drive worked, and he put it on the back patio. The clouds went away, and despite the moon, we looked at Saturn, M11, M17 M57, a few other objects and Neptune. Thanks to Rich S., Rick D., Rick K., Al S., for setting up in the parking lot. We had 50 plus visitors.

In addition, Al brought along his beautifully crafted self-made 8” Reflector!



Harrington Beach, August 22nd

By Joyce Jentges

Many families came out on a windy evening to look through scopes at the observatory. Objects viewed included the Moon, Saturn, NGC457, M13, Alberio, ring Nebula, and Andromeda Galaxy. The wind made for some shaky images, but that did not stop people from taking a look through the scopes. Joining us were two gentlemen who brought scopes, but

are not members of NCSF. They are seasoned observers who may become members in the future.

Glacier Hills, Wash Cty Pk, August 22nd

By Charlotte DuPree

There was a perfectly clear sky. We were given the choice of where to set-up. A field of grass had been cut out for us at the bottom of the sledding hill. With our four wheel drive we made it down from the side of the parking lot. After the programs of learning fire safety, from Smokey the Bear, making an edible campfire, and glow stick hike the 50 visitors stopped by us. We all showed off our favorite deep sky objects. Thanks to Al S., Rick K., for braving the hill, Rick D. and Jeff for helping out.

Total Lunar Eclipse, September 27 - 28!

Fourth of the Tetrads of Lunar Eclipses:

Sleuthed out by Mickey Kazmierski

In the America's we have front row seats to a Total Lunar Eclipse on September 27 - 28th. This total lunar eclipse is the last of the 2014-2015 Tetrads of Lunar Eclipses.

On Youtube, check out:

NASA's ScienceCasts:

A Tetrads of Lunar Eclipses:

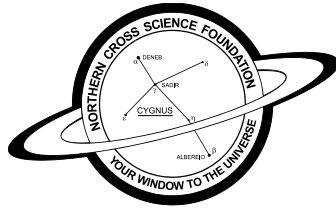
www.youtube.com/watch?v=5gzgSuJM5O8

For our viewing time:

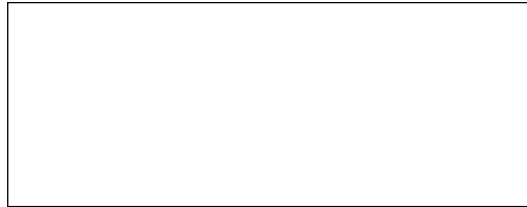
Penumbra Eclipse Begins - Sept 27 at 7:11pm
Partial Eclipse Begins - Sept 27 at 8:07pm
Full Eclipse Begins - Sept 27 at 9:11pm
Maximum Eclipse - Sept 27 at 9:47pm
Full Eclipse Ends - Sept 27 at 10:23pm



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**Jim & Gwen Plunkett
OBSERVATORY**



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Northwoods Starfest-2015, August 14 – 16

Reported by Rick Dusenbery

The annual Northwoods Starfest hosted by the Chippewa Valley Astronomical society was a great success this year with clear skies on both nights! Once again we gathered at their Hobbs observatory east of Eau Claire along with other amateur astronomers throughout Wisconsin and Minnesota.

To kick things off, Gene and Charlotte DuPree hosted the Friday evening brat fry, followed by the first presentation in the Science Center, then out to the telescopes as darkness descended.

On both nights, there were midnight snacks in the red-lighted dining hall (bananas under red light look white!). On Saturday, after a late brunch, there were several more presentations including one on Planetary Nebulae by Jeff Setzer.

Then for the event everyone looks forward to; the Swap Meet. Yes, I bought another eyepiece! As Jeff S. says; you can never have enough eyepieces.

During the Saturday night observing session, we were all treated to a brief display of the Aurora Borealis! So although the skies were good, the weather was hot and sticky with a constant battle against the ever-present dew. Members of the Northern Cross Science Foundation that attended this year included: Jeff Setzer, Gene & Charlotte DuPree, Kevin Bert, Dan & Laura Bert, Joyce Jentges and Rick Dusenbery. The photo is from last year's Starfest and shows Gene & Charlotte with their 18" Dob in front of the Hobbs Observatory. They were back with this telescope this year.

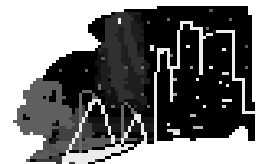


SPECTRUM

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The NCSF supports the International Dark sky association.



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This Issue, along with back Issues of SPECTRUM, can be found on the NCSF Web Site.

<http://www.ncsf.info>

Monthly Meeting Information

7:00 p.m. Astronomy 101
7:30 Main Program
Unitarian Church North
13800 N. Port Wash. Rd.
Mequon, WI 53097