

SPECTRUM

Northern Cross Science Foundation Newsletter

July 2015

Looking Up

July 2, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

July 11, Saturday

Small Scope Party

7:00 p.m.

Harrington Beach

(See page 3 for details)

July 16, Thursday

Board Meeting

7:30 p.m.

Home of Jeff Setzer

July 18, Saturday

Public Viewing

8:00 p.m.—10:00 p.m.

Pike Lake State Forest

July 24, Fri. & July 25, Sat.

Public Viewing

8:00 p.m. - 1100 p.m.

Harrington Beach

August 6, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - **Michael Bakich**

“2017 Solar Eclipse”

August 7, Friday

Geocaching Festival

8:30—10:30 p.m.

Reiner Park, West Bend

(See page 2 for details)

August 8, Saturday

Lake Moon Festival

2:00 p.m. - 10:00 p.m.

Concordia College

ESA's Rosetta Wakes Up!!!...ESA researched by Mickey Kazmierski

First of all, what is Rosetta? The ESA Rosetta's Mission Objective...to help understand the origin and evolution of our Solar System. The comet's composition reflects the composition of the pre-solar nebula out of which the Sun and the planets of our Solar System formed, more than 4.6 billion years ago. Therefore, an in-depth analysis of comet 67P/Churyumov-Gerasimenko by Rosetta and its lander provides essential information to understand how the Solar System formed.

There is convincing evidence that comets played a key role in the evolution of the planets, because cometary impacts are known to have been much more common in the early Solar System than today. Comets, for example, probably brought much of the water in today's oceans. They could even have provided the complex organic molecules that may have played a crucial role in the evolution of life on Earth.

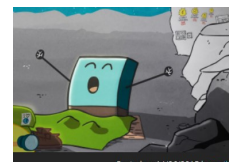
Rosetta was launched on March 2, 2004 on an *Ariane 5* rocket and reached the comet 67P/CG on August 6, 2014, where it studied the nucleus and it's environment. After a detailed survey, the Rosetta Orbiter deployed the Lander, Philae, to the surface on November 12, 2014.

The gravity so weak and with a very soft land-

ing, harpoons intended to fire from the feet did not deploy. The probe simply “bounced” twice across the comet to stop and snuggle beneath a crater wall with little access to sunlight for recharge. Philae fell into hibernation after 57 hours of initial scientific operations. On June 13, 2015, seven months in hibernation Rosetta's Lander, Philae, communicated with Earth, via the Rosetta Orbiter.

For every cloud there is a silver lining...”this mishap, said scientist Laurence O'Rourke, ESA Engineer and Astrophysicist, could prove to be a happy accident. Had Philae touched down in its original landing spot the temperatures as the comet neared the sun could have burned out the lander's electronics, killing it altogether.” But because it found shade -- beneath a cliff face, scientists deduced from images sent by the lander -- it was able to survive.

Now, scientists are excited at the prospect of Philae witnessing a remarkable show as 67P makes its closest approach to the sun in August. "I think we are going to see some amazing images at that point," O'Rourke has said. ESA has led the consortium, which includes NASA, to find out more about the composition of comets and how they interact with the sun.



Observatory Imaging Camera Approved.

Members of the imaging committee including Ernie, Chad, Jamie, and Wally, formed a discussion group to spec-out available cameras for astrophotography. It was determined that a one-shot color camera would best meet our Club's needs, due to ease of use, economics, and resolution demands. Following several months of extensive discussion and research, it was decided that an SBIG 8300C color camera would best fit these parameters.

At the June Board meeting, the proposal by the Imaging Committee to purchase the SBIG camera was discussed and approved. Once purchased, the camera will be incorporated into the imaging system at the Observatory.

Programs to acquaint Members on the operation of the Imaging scope and accessories will be up and coming soon.



SBIG 8300C



June Meeting Minutes

By Secretary Kevin Bert

The June Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. Vice President Joyce Jentges opened the meeting at 8:15 pm and welcomed 18 members and guests.

Treasurer Gene DuPree tells the membership that the regular accounts balance is \$10,757.73 and the observatory account balance remains at \$1,109.06.

Secretary Kevin Bert reports that there were no new members joining since last month. The Astronomical League has a special drawing at the July 6-11 National convention in Las Cruces. It will give away ten library telescopes, one to each region of the League. An entry form needs to be completed and returned by July 1st to qualify. A specific library has to be designated on the form and that will be decided on at the next board meeting.

Observatory Director Dan Bert forwarded a note that bird spike styles for the Harrington Beach signs were being looked into and need to be approved by the park.

Nolan Zadra of the imaging committee reports after months of research the S Big 8300-C imaging camera is the committee's choice. It is a cooled one-shot color imager with a medium sized format. Ernie Mastroianni renewed his commitment to developing a how-to-use the imaging equipment manual. Jaime Hanson is willing to come up with an A to Z imaging tutorial for the committee too.

New Business: Rick Dusenbery said that Northwoods Starfest registration forms were available at the meeting for those who are considering attending.

Kevin Bert gave some details of the upcoming Sun-day on Saturday at his home in Grafton. He encouraged all members to attend and said to call if the weather is questionable.

Joyce Jentges covered upcoming events for June. Saturday, Pike Lake State Park is Discovery Day and includes Sun Viewing. The 7th is again sun viewing at the open park day at Harrington Beach State Park. June 11-14 is the WOW star party in Waupaca. The 25th is a VBS viewing in Menomonee Falls. The 27th is a first time appearance at Heritage Trails County Park.

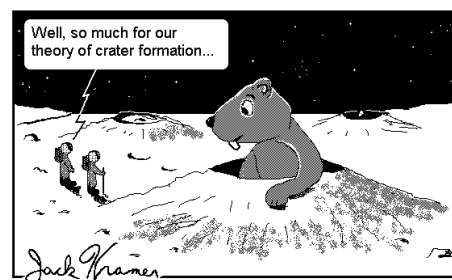
Public Viewing

Geocaching Festival

NCSF have been asked to attend the "West Bend Ca\$h Bash Geocaching Festival" on August 7th, 8:30 p.m. 10:30 p.m. Besides setting up telescopes for Public Viewing, we will need volunteers to staff the information table, where we will be able to sell items for fundraising.

The visitors to the event are expected to be 800—1000 people. We need as many volunteers as possible to set-up telescopes and handle the information booth.

Jeff Setzer is organizing this event and will speak more on arrangements at the July General Meeting.



Things to See in the July 2015 Night Sky By Don Miles

Mercury, Jupiter, & Venus: Mercury will cover a lot of sky this month as it starts the month closely leading the rising Sun and rising by about 4:15am. It continues to slip towards the trailing Sun as it works its way around the "back side" of the Sun during mid-month. By late in the month, it will have worked its way far enough away from the now leading Sun to be viewed as an evening object. As fast as it changed from a morning object to an evening object over a couple of weeks, it now remains an evening object until late September. It's at (mag. -0.3), so if it wasn't for the glare of the Sun, it'd be a pretty bright object. Jupiter & Venus start the month very close to each other (less than half a degree), and will drift further apart as the month progresses. They both start and end the month in the constellation Leo, but by months end Venus will have moved eastward to the point that there will then be 6.5degrees between them. Jupiter is at (mag -1.8), and sets by about (11/9pm). Venus is still the brightest non-Moon object in the night sky, is still at a brilliant (mag. -4.4), and sets about (11pm/sunset). Both Jupiter and Venus will continue to slip closer towards the Sun until they become morning objects by around late August. They'll both remain morning objects for the rest of summer & fall, but Jupiter will continue to rise earlier and eventually rise by around 10:30pm at years' end.

Saturn: Beautiful Saturn is already high in the sky as the Sun is setting, and transits about (10:15pm/sunset), and sets around (3:15/1am). It has dimmed slightly to (0.3 mag.), and remains fairly stationary in the constellation Libra. It continues to set earlier and earlier, but will remain viewable as an evening object thru mid November. The rings are still tilted at an excellent angle to view the gaps or "divisions".

Pluto, Uranus, Neptune, & Mars: Pluto is the first to rise, and this month is already up at sunset. It's up most of the night, and sets by about (6/4am). It's still in the constellation Sagittarius and still at a blazing (14.1 mag.). Uranus is the next to rise, and does by about (1:15am/11pm). It's in the constellation Pisces, and will remain there for the next couple of years. Neptune is the next to rise, and will by about (11:45/9:30pm). It remains stationary in the constellation Aquarius. Next to rise is Mars, and after spending the early part of this year as an evening object, will be a morning object by late in the month. It will steadily rise earlier into winter, ultimately rising by about 1:45am around Christmas time. Late in the month when it can be spotted, it'll be around (1.6 mag.) and will stay close to that brightness for the rest of the year. After that, views will get better and brighter as we make next close pass to Mars in June of next year.

Moon:

July 1st: Full Moon

July 8th: Last Quarter

July 15th: New Moon

July 24th: First Quarter

July 31st: Full Moon



Special Events/Objects:

There are two main meteor showers this month, and those are the Southern Delta Aquarids, and the Capricornids. They both happen to peak the same couple of nights, but the Aquarids have a longer window of start/end dates. They start as early as mid-July and end around mid-August peaking the night of the 28th at about 20/hour. These are moderate speed (25.5 miles per second) showers that are yellowish in color. The Capricornids are also yellowish, peak the night of the 29th at 15/hr, but are slower than the Aquarids (15mps). The thing that makes this shower worth watching (even though the quantities aren't that large), is that these are frequently known to include fireballs. There will be a Full Moon the night of the 31st, so will wash out most of the more faint meteors, but the potential of seeing a fireball or two makes it worth it to keep watching if you happen to be out enjoying the summer warmth anyways. If you can get out of the direct moonlight, and can keep the mosquitoes at bay, you may be impressed.

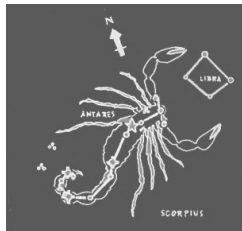
July General Meeting

101 Class...By Kevin Bert

The Astronomy 101 class for July is entitled "Interpretive Signs at Harrington Beach State Park," by Kevin Bert. A total of eight signs are placed around the Jim & Gwen Plunkett Observatory. These informative signs highlight some of the basic concepts of astronomy that can be viewed by park visitors. The 101 class will take a close look at what can be learned by these signs.

Constellation of the month:

Scorpius



Main Program

Hubble Space Telescope 25th Anniversary: A Look Back

The space telescope created by NASA and ESA has taught us countless things about the universe that surrounds us, and its breathtaking images have inspired a whole new generation of scientists. At this month's meeting we will watch a video series compilation of Hubble's accomplishments throughout its history.

Book Sale

Books donated by former member Michael Arnow will be on sale at July General Meeting. Proceeds will go to NCSF.

RELATED INFO

Leaders for Public Viewing

July 11

Small Scope Party
Kevin Bert

July 18

Pike Lake State Forest
Gene & Charlotte DuPree

July 24

Harrington Beach
Leaders Needed

July 25

Harrington Beach State Park
Leaders Needed

August 7

Geocaching Festival
Jeff Setzer

August 8

Lake Moon Festival
Jeff Setzer

STAR PARTIES

Northwoods Starfest

August 14 - 16
Hobbs Observatory
Fall Creek, WI
cvastro.org@gmail.com

FOR SALE !!

14 1/2 in. f/5.6 Truss Dobsonian

with telrad and shroud. Mirror ground specially by known precision optics maker James Mulherin of Torus Optical, now OMI. (check website for info on high quality mirrors they produce). Also has built in older drive with rubber belt mechanism.



Purchase price, I have \$4000 into it, but will consider \$2500 or best offer.

Nolan Zadra : 414 333 5248

June Public Events

Pike Lake, June 6

By Charlotte DuPree

Discovery Day, solar viewing. We had a clear sky for most of the day, until the fair weather clouds came to visit. We had a steady flow of visitors. Thanks to Al and Rick D. for joining us.

Harrington Beach, June 7

By Rick Kazmierski

Our Solar Day at Harrington Beach was partly to mostly cloudy with a threat of rain. Nolan, Ernie, Rick D., and myself set up two solar scopes and two white -filter scopes. Despite weather conditions, about 35 people attended the event. Holes in the cloud cover allowed most attendees to view a massive prominence and numerous sunspots. One young girl about 8 yrs. old was there with her granddad and became enamored with my scope. She kept coming back to view again and again. Eventually, I had her clean out the inside of my telescope case, which she pointed out was full of pine needles and other debris. She's our future generation of Astronomer!

Calgary Baptist Church, June 25

By Charlotte DuPree

At the Calgary Baptist Vacation Bible School, Menomonee Falls. We had a good view of Venus and Jupiter, as they went in and out of the clouds. When it got dark enough Al spotted Saturn. Thanks Al and Carol for helping.

Heritage Trails, June 27

By Charlotte DuPree

Heritage Trails, Washington County, "Wild About Parks". This was a solar viewing program, with a clear sky until the fair weather clouds appeared. The visitor count was 294. We handed out Astronomy magazine information brochures. Thanks to Al, Rick D., Rick and Georgine, and Carol for their support.

The Small Scope Star Party!!!

July 11th 7:00 p.m.

Harrington Beach

By Kevin Bert

A special night has been put aside for you, your family and friends to gaze through those amazing little instruments. No scope? No problem, come and feel at home and a happy chance to learn from others.

A starting time of 7 p.m. will allow time to setup and enjoy the variety of scopes before it gets dark. **Please check out: Things to see in the July 2015 Night Sky, page 2 for what to expect for your viewing pleasure.**

Our goal is to have all members attend and you are in no way obligated to bring a telescope. Members are encouraged to bring as many small scopes as possible. I know some of you have two or more lurking in attics, closets, and basements. Even if they are only tube assemblies, bring them all. Though the event is for members, be aware that some campers from the park might stop to check out the activity. Members should use the parking lot to set up and the observatory will remain closed to focus on the small scope theme.

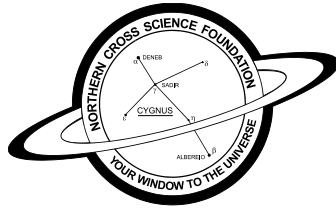
If it turns out to be a night to look at your scope rather than through it because of clouds, please consider still bringing your scope so those in attendance can still appreciate it.

Snacks at 11:00 p.m.

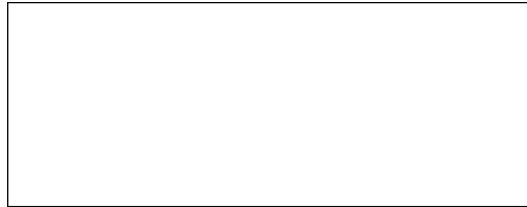
SSSP Rules: Like other classy events, a few ground rules need to be set.

1. No telescopes over 6 inch in aperture
2. Larger Scopes stopped down do not qualify.
3. Telescopes of any optical configuration, Reflector, Refractor, Catadioptric are acceptable.
4. No binoculars please.
5. No photon amplification equipment allowed. Visual use only!
6. Items for sale or trade are encouraged.

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NCSF
Public Outreach



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WOW by Rick Dusenbery



Having waited for the rain to quit on Thursday, I drove up to Waupaca for W.O.W. on Friday afternoon with conditions improving. After the fish fry at King's Table and the obligatory stop at Scooper's for ice cream, we returned to camp to set up scopes and wait for darkness. Clouds were beginning to invade, but as it got dark, we were able to observe Venus, Jupiter, Saturn, and several of the brighter deep sky objects until the increasing clouds

shut us down. The next day we awoke to rain which continued on and off all day. After the afternoon ice cream social and door prize giveaway, we broke camp and headed for home. My photos show us in camp as we waited (with some taking up knitting), then some brief observing with telescopes and binoculars.



NCSF Board of Directors:

The Board is looking for a few people to store telescopes. One in particular is the Bob Sedgwick scope. It is a 6 inch Newtonian, equatorial. There are also some loaner scopes that need to be housed. If you have some room please contact Gene DuPree: 262-675-0941 or Kevin Bert: 262-375-2239. Thanks!



Jim & Gwen Plunkett
OBSERVATORY

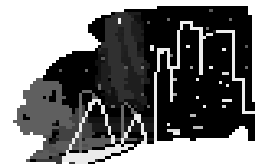
Observatory Director: Dan Bert
262-357-1973

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