

# SPECTRUM

Northern Cross Science Foundation Newsletter

June 2015

## Looking Up

June 4, Thursday

### General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

June 6, Saturday

### Discovery Day

9:00a.m. - 1:00 p.m.

Pike Lake State Park

June 7, Sunday

### Solar View/Free Day

12:00 p.m. - 4:00 p.m.

Harrington Beach

June 18, Thursday

### Board Meeting

7:30 p.m.

Home of Jeff Setzer

June 20, Saturday

### Sunday on Saturday

2:00 p.m.

Home of Kevin Bert

June 27, Saturday

### Solar Viewing

11:00 a.m. - 3:00 p.m.

Heritage Trails,

Washington Co. Park

## STAR PARTY

Wisconsin Observer Weekend  
WOW

June 11 - 14

Hartman Creek State Park

Waupaca, WI

[www.new-star.org](http://www.new-star.org)

## NASA Apps for Cell Phones and Tablets NASA

It is true that not everyone has a smartphone or tablet, but even those who don't can appreciate the endless possibilities apps can have in the enjoyment of Astronomy. Here is a list of applications available free from NASA. More information is available from the NASA website at "<http://www.nasa.gov/connect/apps.html>".

**NASA Spinoff** Profiles best examples of technology that have been transferred from NASA research and missions into commercial products. From life-saving satellite systems to hospital robots that care for patients and more, NASA technologies benefit society. There's more space in your life than you think! [iPad App](#)

**NASA 3DV** The 3DV mobile app allows you to examine several of NASA's Deep Space Exploration projects that will take our space program to asteroids, Mars, and beyond. [iPad App](#)

**NASA App** The NASA App showcases a huge collection of the latest NASA content, including images, videos on-demand, NASA Television, mission information, news & feature stories, latest tweets, ISS sighting opportunities, satellite tracking, Third Rock Radio and much more. [iPhone/iPad and Android App](#)

### **NASA Television**

The NASA Television App brings live and on-demand TV programming to your phone. Watch the latest NASA events unfold in real-time or select from a list of recently uploaded videos. Or plan your viewing up to a week in advance with the NASA TV schedule. [iPhone/iPad App](#)

## Other NASA Apps by Topic:

### Rocket Science 101

Select your favorite NASA mission and build a rocket to send the spacecraft into orbit.

[iPhone/iPad or Android](#)

### Centers

Kennedy Space Center: Launch Services

Program Activity Book [iPad or Android](#)

What's Up at Wallops [iPhone/iPad or Android](#)

### Aeronautics

Sector 33: [iPhone/iPad or Android](#)

### Station & Shuttle

Ascent: Space Station Crew: [iPhone/iPad](#)

Ascent: Commemorating Shuttle: [iPad](#)

30 Years Shuttlebook: [iPad](#)

### Solar System

3D Sun: [iPhone/iPad](#)

Cassini: [iPhone](#)

Comet Quest: [iPhone](#)

Curiosity: [Windows Phone](#)

Go StarGaze: [iPhone](#)

Grail Mission App: [iPhone](#)

MESSENGER: Orbiting Mercury: [iPhone/iPad](#)

Moon Tours: [iPhone/iPad](#)

NASA Be A Martian: [iPhone/iPad, Android](#)

NASA HIAD: [iPhone/iPad](#)

NASA Science: A Journey of Discovery: [iPad](#)

NASA Space Weather App: [iPhone](#)

NASA Visualization Explorer: [iPhone/iPad](#)

Space Communications and Navigation:

Spacecraft 3D: [iPhone/iPad App or Android](#)

Space Junk Sammy: [iPhone/iPad](#)

Space Place Prime: [iPhone or iPad](#)

### Universe

Hubblesite: [iPhone](#)

Night Sky Network: [iPhone](#)

NASA Science: A Journey of Discovery: [iPad](#)

Space365: [iPhone/iPad or Android](#)

Space Images: [iPhone/iPad or Android](#)

Space Place Prime: [iPad](#)

NASA Space Weather Media Viewer: [iPhone](#)

X-Ray Universe (Chandra X-Ray Observatory)

[iPhone](#)

### Earth

Aquarius: [iPhone](#)

Earth as Art [iPad](#)

Earth-Now: [iPhone or Android](#)

Images of Change [iPad](#)

## May Meeting Minutes

By Secretary Kevin Bert

The May Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. President Jeff Setzer opened the meeting at 9:00pm and welcomed 15 members and guests. He then asked for standard reports.

Treasurer Gene DuPree tells the membership that the regular accounts balance is \$10,863.64 and the observatory account balance remains at \$1,109.06.

Secretary Kevin Bert reports that the 2015 membership cards would be available after the meeting and remaining cards would be mailed inside the next Spectrum. There were no new members added to the roster and it remained at 57. With no offers to host the Astronomical League Regional Convention, it has been officially canceled. The League is planning to give away one Library Telescope to a club in each of the Leagues regions. A drawing will be held at the National Convention from July 6-10 in Las Cruces NM. An entry form must be sent in to the League by July 1 to be eligible for the drawing. Kevin said that he would take care of making the club eligible.

Observatory Director Dan Bert was not

available to report. There were reports that perching birds are dirtying the newly installed signs around the observatory. It was noted that a strip of bird spikes at the top of the signs, available at a number of home improvement stores, are inexpensive and could solve the problem. The option will be forwarded to Dan.

Nolan Zadra reports that the imaging committee consensus was to purchase a one-shot color camera of some type. The manual to operate the refracting imaging scope will be delayed for several months, but some hands on sessions will be scheduled to encourage the equipment's use.

Kevin Bert said there was concern about the "observatory use reminder" in the May newsletter. Running the Panarusky telescope at scheduled public viewing nights, by trained operators, is what is needed to satisfy our obligation to the park. The concern was, what is the responsibility of members that run the Observatory to operate the imaging telescope? As of yet there has been no formal training for the imaging equipment/Observatory while members trained on the Panarusky are familiar with the rule that they need to be a Leader or an Assistant to the leader for one Observatory event per year. It was clarified at the meeting that all Observatory operators should be active in helping with PVN's. If imagers

have no training on the Panarusky, opening the Observatory and Operating the imaging telescope visually or by simple imaging will be sufficient to satisfy the park requirement. Ideally both observatory telescopes will be operating. As usual, members are not required but encouraged to bring their personal scopes too.

Jeff Setzer was sad to say that the sidewalk Astronomy at Bayshore has officially come to an end. The new owners of Bayshore were moving in a different direction and eliminating all of the public relations programs.

Under New Business: Rick Dusenbery had registration forms for Wisconsin Observers Weekend and encouraged members to participate.

Jeff Setzer covered upcoming events for May. Ackermann Grove is the location of the month's first viewing night on the 16th. The 23<sup>rd</sup> is a Pike Lake Public Viewing Night. The 24<sup>th</sup> is the Astronomy Day Port Washington Street Festival in the afternoon followed by an evening of viewing at Harrington Beach. With no further business, Jeff closed the meeting at 9:30 pm.

## Things to See in the June 2015 Night Sky *By Don Miles*

**Mars, Venus, & Jupiter:** Mars is passing around the back side of the Sun, so not viewable until mid summer/early fall when it will be in the morning sky. Venus is still the brightest non-Moon object in the night sky. On the evening of the 6th, Venus will have reached its greatest eastern elongation...meaning it will have reached its greatest separation in the easterly direction from the Sun (from our earthly vantage point). This month, it's at (-4.3) and trails the Sun in the western sky. If you look at it thru a telescope, you can observe the changing phases (similar to our Moons phases) as Venus tracks around the Sun and we get views of the shaded side. Since it is an inner planet it covers a lot of sky, and this month is no different as it begins in the constellation Gemini, passes eastward thru Cancer, and finishes the month in Leo. To get an idea of just how much it will move, pay attention to the distance between Jupiter and Venus early in the month, and watch as Venus moves eastward until they pass less than half a degree from each other by the 30th (our Moon is about 1/2 degree wide). Jupiter also moves eastward, but not even close to the speed of Venus. It should be a nice pairing. Jupiter is the next to set, and will be about (12:45am/11pm). It's still an excellent target this month as it is already high up at sunset. It starts the month in the

constellation Cancer but slowly works its way to the East also ending up in Leo. If the forever changing positions of its moons aren't enough to keep you interested, check the internet for shadow transit times of the same moons, or transit times for the Great Red Spot. It seems like there is always something happening on this planet. **Saturn:** This month, Saturn is already high in the sky as the Sun is setting. It transits about (12:15am/10:15pm), and sets around (sunrise/3:15am). It's at (0.1 mag), and slowly works its way westward within the constellation Libra. It will continue to set later and will remain viewable as an evening object thru late November. The rings are still tilted at an excellent angle to view the gaps or "divisions".

**Pluto, Neptune, Uranus, & Mercury:** Pluto is the first to rise, and will be about (10:30/8:30pm), and still in the constellation Sagittarius. Neptune is the next to rise, and will be about (1:30am/11:45pm). It remains stationary in the constellation Aquarius. Uranus is the next to rise, and does by about (3/1:15am). It's in the constellation Pisces, and will remain there for the next couple of years. You'll know you've found it when the "star" in your target field has a tell-tale bluish color, and not quite stellar. Next to rise is Mercury. Mercury is too close to the Sun early in the month to view, but by mid-month, it will

have pulled ahead of the rising Sun to be viewed. It will rise mid/late-month by about 4:15am, and on the 24th, will have reached its greatest western elongation (similar to Venus mentioned above, but Mercury will be leading the Sun, hence the western reference).

### Moon:

June 2nd: Full Moon

June 9th: Last Quarter

June 16th: New Moon

June 24th: First Quarter



### Special Events/Objects:

There are numerous meteor showers this month, and as usual, the Moon will wash out most of the more faint ones. There is one shower that has potential of a good show, and those are the slow-moving June Bootids. These are very unpredictable, and peak rates can vary from as little as 15/hr to as many as 100/hr. The best time to look for them is a very small window of opportunity from about 2:30 to 3:30am (after the Moon sets, and before the rising Sun) the night of the 27th. Narrow shower peak dates, limited hours of darkness, & the Moon...All make frustrating view for most showers in summer. Longer nights are on their way.

## June General Meeting

101 Class...By Kevin Bert

### “Viewing the Closest Star.”

As you might have guessed we are talking about the Sun. Time will be spent viewing from the parking lot with white light and H-Alpha filters. You are encouraged to bring your own scope too. If weather permits we hope to start viewing before 7:00 pm. get a chance to see what the ever-changing disk of the Sun reveals.

Main Program By Joyce Jentges

### “Our Magnificent Sun”

In conjunction with solar viewing, our main program will continue our learning about the sun. We will take a look at the various layers of the sun, talk about solar phenomena such as prominence's. We will also spend some time talking about space weather and aurora.

### May Public Events

**Ackerman Grove, Washington Co. May 16th**

*Reported by Charlotte DuPree*

Of course we had a cloudy sky for this event. The sucker holes were numerous as the clouds rolled by. We were able to keep the scopes on Venus and Jupiter. There was a **good size crowd, around 200**, for this first annual event, to advertise the park system. Thanks to Jeff and Al for helping out.

**Pike Lake State Forest, May 23rd**

*Reported by Charlotte DuPree*

May 23, Pike Lake. This was another night when the forecast was not good. The evening started with mostly thin clouds. The Moon stayed in the clear and Venus was soon spotted, and Jupiter later appeared. The campers that stayed after 10:00 enjoyed looking through the scopes at objects like M13 the Beehive, M57, and numerous galaxies. The last views of the night were Saturn. According to Gene it is well worth the time, and his great pleasure, too hear the excitement of the visitors who looking at the night sky for the first time. This is one of the important reasons we do public outreach!

**Harrington Beach, May 24th**

*Reported by Charlotte DuPree*

May 24, Harrington Beach, public viewing. This night was rained out. We, Charlotte, Gene, Joyce, Jeff, and Kevin, had an enjoyable time sitting around the heater and discussing many topics.

**Pt Washington Street Festival, May 24th**

*Reported by Joyce Jentges*

Four hardy souls braved the continually progressive rain to be at the NCSF exhibit for Port Washington's Annual Street Festival. The Event Organizers called the event at 4 p.m. We had two additional members stop by which gave us the opportunity to chat about future events and camping. There were more people wandering about than I expected so we did actually hand out some flyers. Early on I had one young man who said that his telescope could see through the clouds. I promised him that for as large as our scopes were, that wasn't possible, especially for as thick as they were at this event. Kevin Bert put out his solar dobsonian for show, but with a few bursts of wind, we were trying to keep it as dry as to be put

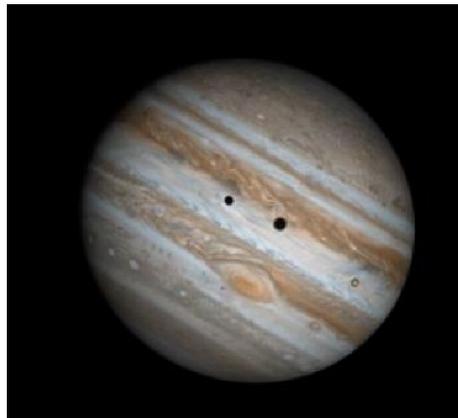
on an end by the bands. It's just too loud, and as the day went on the band's rendition of some popular songs were getting worse.

Despite the rain we did have a lot of fun. A big thank you to Rick Dusenbery, and Kevin Bert for assistance with the exhibit. Thanks to Gail and Harvey Sherman for stopping by.

### Double Shadow Transit on Jupiter

*by Rick Kazmierski*

On the night of May 27<sup>th</sup>, I had the pleasure of viewing a double shadow transit on Jupiter. (Thanks to Gene & Charlotte for the tip.) Skies were clear with a waxing gibbous moon, and my 12" Dob was ready for the task. I got my best balance between magnification and seeing at 250 power. I first began viewing around 8:20pm: the Ganymede shadow was already 1/3 across the planet. At 9:05pm I first notice Io's shadow. The Ganymede shadow was larger and more distinct than Io. As time past, it became obvious the Io shadow was moving much faster the Ganymede as the two drew closer together. By 10:30 I was no longer able to distinguish them as separate.



*Jupiter's May 27th double shadow transit*

An event I hadn't anticipated was Io ending it's transit across Jupiter since I couldn't see it silhouetted against the planet. It began as a slight pimple on the limb and took about 5 minutes the fully separate. This left all four moons visible, a striking sight with the eclipse in progress.

As an added bonus, the Great Red Spot was prominently in view. It's been awhile since I've observed the dance of Jupiter's moons over time. It was a welcome viewing experience on a night I would have otherwise not viewed, considering the gibbous moon!

## RELATED INFO

### Leaders for Public Viewing

#### June 6

Pike Lake State Forest  
Gene & Charlotte DuPree

#### June 7

Harrington Beach  
Gene & Charlotte DuPree

#### June 27

Heritage Trail, Wash. Co. Pk  
Gene & Charlotte DuPree

### Membership Cards

Those who were unable to pick-up your Membership card at the last General Meeting will find it enclosed in this Newsletter. If you receive the Newsletter in digital form only, your card will be mailed in the next few days.

Your card identifies you as authorized to be at Harrington Beach—Plunkett Observatory after park hours. (Valid State Sticker still required.) In addition, it's just cool to be a card carrying NCSF member.

Any membership card issues should be directed to Kevin Bert.

### FOR SALE

14.5 inch Truss Dobsonian f/5.6  
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).

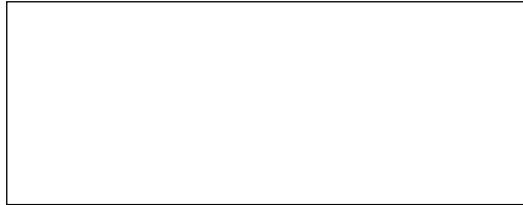
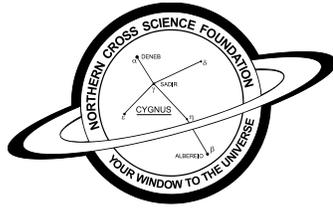
Also has built in older drive with rubber belt mechanism. Purchase price over 10 years + ago was over \$3000. Will consider a reasonable offer.

**Nolan Zadra 414 333 5248**



**Observatory Director: Dan Bert**  
262-357-1973

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## Imagers Report *by Ernie Mastroianni*

The Whirlpool Galaxy (M51) is a popular deep sky object, riding high in the spring sky at the tail end of the Big Dipper's handle in the constellation Canes Venatici. With distinct spiral arms and a nearby companion (NGC 5195), it is a favorite target for astrophotographers. Even modest equipment can produce impressive-looking photos of this 8.4 magnitude galaxy.



Northern Cross member Wally Gersmehl took this detailed photo (see above) with an Astrotech refractor from the Harrington Beach parking lot in mid April. The scope has a focal length of just 430 millimeters and an aperture of less than 3 inches. He took two 30-minute sub exposures with his Atik 460EX one shot color astro camera and processed them with Images Plus and Adobe Photoshop software. Look to the upper left of M51 and you can spot the tiny, sliver-shaped galaxy IC 4263, glowing dimly at 14.5 magnitude. This is a heck of a shot, taken with a 72mm refractor with a 430mm focal length.

## Observatory Report

The New NCSF Signage at the Plunkett Observatory is being by appreciated "birds" as well as the park visitors. They are perching on the top edge of the signs and as you might guess, they aren't reading them! In order to reduce this mess Dan Bert will look into wire prongs for the top of the signs, hopefully to deter the birds. Also, worries over the pit toilet being closed are over! There will be a portable toilet near the observatory for the season.

## SPECTRUM

Is published by the Northern Cross Science Foundation, Inc. A nonprofit organization based in Southeastern Wisconsin and is a Member of the North-Central Region of the Astronomical League.



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