

SPECTRUM

Northern Cross Science Foundation Newsletter

May 2019

Looking Up

NOTICE

May Meeting Date Change

The May General Meeting will be held on the second Thursday this month,

May 9, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

May 16, Thursday

Board Meeting

7:30 p.m.

House of Jeff Setzer

May 18, Saturday

Observatory Training

7:00 p.m.

Harrington Beach

May 23, Thursday

NCRAL Meeting

7:30 p.m.

Home of Rick Kazmierski

May 26, Sunday

Port Washington Festival

Noon - 5:00 p.m.

Downtown Port Washington

May 26, Sunday

Astronomy Day

Dusk - 11:00 p.m.

Harrington Beach

June 6, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

Canyonlands National Park, Mesa Arch *by Nolan Zadra*

In early April Diantha and I flew to Utah to do some four wheeling with a cousin and his friends in Canyonlands National Park, rock hounding, hiking in Arches National Park and photography. We had been there 5 years ago and at that time I photographed sunrise at Mesa Arch.

Thought I'd give it another attempt and got up after 2:30 a.m. so I could leave after 3. It was well over an hour drive to the top of Canyonlands to get to Mesa Arch. One had to be careful in the dark of hitting cattle; particularly after having seen one dead cow sadly on the side of the road the day before.

So even with that early start, by the time I arrived at the parking lot there were already 12 cars present after 4 a.m. I finally found my way to the arch after a 15-minute hike and had to struggle to find a place in the line to set up my tripod. It was also cold at 6100 feet of elevation and with a wind, I was not dressed for the occasion.

Although I had come to capture the great glow under the bottom of the arch at sunrise, there was also an opportunity to photograph the arch with the Milky Way over head. Sadly I did not have anything wider than a

24 mm lens on my full frame camera. Oh to have had a 16 or 17 mm lens to better capture the Milky Way.

I was clearly getting some trailing at 21 seconds of exposure so the shot isn't perfect. Also I was shooting at F4 with an ISO of 6400.

Someone did come up with a creative flashlight idea which produced a very neat picture. Lastly, is an image of the arch at sunrise.



Observatory News

On a terrestrial note, observatory director Dan Bert reports that the doors to the Plunkett Observatory have been fortified to resist any further break-in attempts. Observers at an imaging session in late March discovered that one of the south doors had been kicked in. Park officials

and Ozaukee County law enforcement were notified. No damage was done to any of the telescopes or related gear. The only missing item evident was the jar that holds donations during public viewing events. - Ernie Mastroianni

April Meeting Minutes

By Kevin Bert

The April 2019 Business meeting of the Northern Cross Science Foundation was held at the GSC Technology Center in Germantown. President Jeff Setzer called the meeting to order at 8:20pm and welcomed 24 members and guests. He announced that the May meeting will be held on the second Thursday because of the conflict of the Astronomical League Regional Convention. Jeff reminded the membership that in 13 months we will host the 2020 convention. He then asked for standard reports.

Treasurer Gene Dupree tells the membership that the checking balance is \$11,686.07 and the Observatory balance remains at \$418.49.

Secretary Kevin Bert reports that the membership roster remained the same. Under the Astronomical League our own regional convention is coming May 3 - 5 and will be

held in the Quad Cities and there is still time to make plans to attend.

The observatory Director Dan Bert reports that there was a break-in at the Observatory. The south east door had been kicked in when part of the door frame gave way. The only casualty appears to be the donation jar that is now missing. It was recently emptied with the exception of a few dollars. No other damage was seen inside the Observatory or equipment stolen. The broken door frame will be repaired and reinforced to prevent another incident. April 27th is Earth Day at the park and any willing members can show up to help spread mulch or prune shrubs around the Observatory. An Observatory training night will be held on May 18th for members wanting to run the 20-inch Panarusky Telescope or get a refresher.

With no new business Jeff reminded members there a few upcoming events. May 3-4 is the Regional Convention of the Astronomical League. May 26th is the start of our public outreach with solar viewing at the Port

Washington Street Festival during the day followed by observing at Harrington Beach in the evening. Wisconsin Observers Weekend (WOW), starts on Thursday May 30th at Hartman Creek State Park and runs through that weekend.

Jeff noted that the club may consider an alternative to the traditional Messier Marathon that attempts to view all the Messier objects in one evening. The new program would view half the list early in the year and the remaining list late in the year. This would only require being up part of an evening both times. Other clubs have had success with this alternate approach. Look for an update sometime soon.

The NCRAL 2020 planning committee would be gathering on April 25th. The last Thursday of the month will continue to be their meeting night. Any member can contact Mike Borchert if they would like to attend.

With no further business Jeff closed the meeting at 8:50 pm.

Harrington Beach Imaging Report *by Ernie Mastroianni*

April and May present good opportunities for imaging and viewing galaxies, especially among the rich clusters between Leo and Virgo. A short hop east of Denebola (Beta Leonis) are the elliptical galaxies M84 and M86, separated by half a degree. Both shine at mid-9th magnitude and are about 54 and 52 million light years away, respectively. They're part of a dramatic strand known as Markarian's Chain, a physically-linked group of galaxies with a common motion first noted by astrophysicist Benjamin Markarian in a 1961 *Astrophysical Journal* paper. This image, taken by Ernie Mastroianni at the Plunkett Observatory on April 23-24, is centered on M86, with M84 at right. The image does not show the entire chain though ten galaxies are clearly visible in this photo. Among the group are a pair of 10th magnitude spiral galaxies at far left (NGC 4435 and 4438) as well as the edge-on, 12th magnitude NGC 4402 at top center and 11th magnitude NGC 4388 in the bottom right corner. Many of these galaxies were also visible in my 5-inch Maksutov. The entire chain is a treat to pan through with a low-power eyepiece.

While the Owl Nebula (M97) is not a galaxy, Rick Kazmierski's imaging efforts easily revealed two faint galaxies in the distant background. To the Owl's left is PGC 2490291, a 17.6 magnitude spiral galaxy that is about 790 million light years away. The smudge behind the star at right is PGC 34279, a 16th magnitude spiral galaxy that lies 500 million light years distant. The Owl Nebula is much closer, residing in our galaxy just 2000 light years away and located just below the Big Dipper's bowl. Kazmierski took the shot from his home observatory using a Meade 14" Schmidt-Cassegrain and a modified Canon DSLR.



May General Meeting

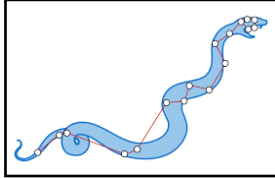
Astronomy 101 *by Kevin Bert*

"Impact Craters"

The May 101 class is entitled "Impact Craters," by Kevin Bert. One of the most dramatic features seen on the moon are the craters. On this dry and lifeless world they tend to stand out from the familiar mountains and valleys. The 101 class will explore the cause of the majority of craters and look at the features all craters display.

Constellation of the Month:

Hydra



General Meeting *by Joyce Jentges*

Astronomical Clock of Prague

Thursday May 9th, I would like to discuss astronomical clocks. Not just any clock though, The Amazing Astronomical Clock of Prague, which is the oldest astronomical clock of its kind. We will take a look at the history and features that make this clock unique. Join us for a look at this unique clock and all of its interesting features.



Related Info

Observatory Training

May 18, Saturday

Harrington beach

Kevin Bert

Star Parties 2019

NCRAL

May 3 - 5

Moline, IL.

NCRAL2019.org

Pre-WOW

May 27—May 30

Jeff Setzer

WOW

May 30 - June 2

Hartman Creek State Park

WWW.new-star.org

Northwoods

August 2 - 4

Hobbs Observatory

Beaver Creek Reserve

Fall Creek, WI.

www.cvastro.org

2019 Planets *by Gene R. DuPree*

The best time to view Mercury is on June 20, when it is at its highest point, in the western sky. But you will need a low western view.

Venus will be visible starting in September. Watch its movement through the night sky, at least once a week, to see its changing phase and size.

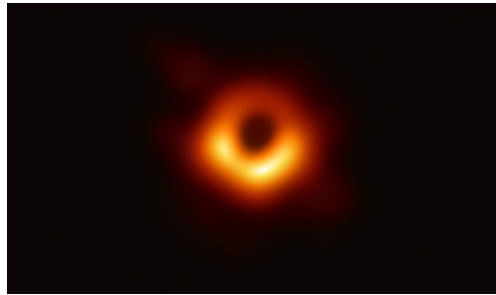
Mars is visible now in the night sky. It is in Taurus for now. Its next opposition is October 2020.

Here are the oppositions and dates for the remaining planets and the constellations they are in. Jupiter is in Ophiuchus on June 10. Saturn is in Sagittarius on July 9. Uranus is in Aries on October 28. Neptune is in Aquarius on September 10. Pluto is in Sagittarius on July 14.

I have never tried looking for Asteroids. That is something the astro imagers can try to do. You can see there is movement, over hours, in photos. There are no bright comets at this time. But, there are four dim ones that could be a challenge for you to try and find. There is a lot of info on Heavens-above.com with a full range of objects to view.

KEEP LOOKING UP

Astronomer's First Image of a Black-hole *Internet Sources*



We've been waiting for two years since the Event Horizon Telescope gathered the data from the supermassive black holes at the heart of the Milky Way and galaxy M87. And this month they finally announced the results, revealing, the black hole from M87. You can see the black hole's event horizon at the heart of the fiery accretion disk, where matter is whirling around at close to the speed of light before plunging into the 6 billion solar mass black hole.

The EHT links telescopes around the globe to form an Earth-sized virtual telescope with unprecedented sensitivity and resolution. The EHT is the result of years of international collaboration, and offers scientists a new way to study the most extreme objects in the Universe predicted by Einstein's General Relativity during the centennial year of the historic experiment that first confirmed the theory.

Creating the EHT was a formidable challenge which required upgrading and connecting a worldwide network of eight pre-existing telescopes deployed at a variety of challenging high-altitude sites. These locations included volcanoes in Hawai'i and Mexico, mountains in Arizona and the Spanish Sierra Nevada, the Chilean Atacama Desert, and Antarctica.

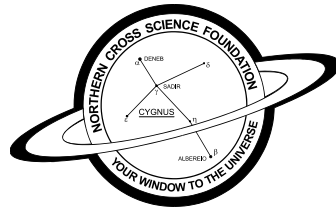
(Con't. Pg-4)



Jim & Gwen Plunkett OBSERVATORY



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(Con't. from Pg-3)

The EHT observations use a technique called very-long-baseline interferometry (VLBI) which synchronises telescope facilities around the world and exploits the rotation of our planet to form one huge, Earth-size telescope observing at a wavelength of 1.3 mm. VLBI allows the EHT to achieve an angular resolution of 20 micro-arcseconds — enough to read a newspaper in New York from a sidewalk café in Paris.

The EHT is focused on two holes: M87* in Virgo, and Sagittarius A*, at the heart of our Milky Way galaxy. They represent two types of black holes. M87* emits jets of material, while Sag. A* doesn't. We don't why.

Images of Sag. A* are still coming, so stay tuned. Maybe the EHT will be able to answer why some black holes emit these relativistic jets, and why some don't.

For Sale

Meade 10 inch LXD55, Schmidt Newtonian, with UHTC lens (Ultra High Transmission Coating), Telrad sight, 8 Super Possl multi coated 1.25" lenses, 6.4, 9.7, 12.4, 15, 20, 26, 32, 49, two camera lens adaptors, and a Meade 2X-3X variable telenegative multi-coated lens holder. Plus a set of Tiffin filters yellow, orange, It green, It blue and a no.96 - 13% glare filter for the moon. This is on a Meade motorized tripod. Computer has 1000's of objects. Also, a 20 foot electric cord and transformer, which came with the scope. It can run on C batteries, I think it takes 8. I used a small battery, on a block of wood, in a plastic bucket. I bought it new in 2004.

Bob Radtke 262-377-7155 Please leave message if we don't answer right away!

I'm coming to the May 9th meeting with it.

SPECTRUM

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NCSF is a member of the North-Central Region of the Astronomical League.



NCSF supports the **International Dark Sky Association**

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

Monthly Meeting Information

7:00 p.m. Astronomy 101 Mtg.
7:30 p.m. Main Program
Location at the -

GSC Technology Center
W189 N11161 Kleinmann Dr
Germantown, WI 53022

Spectrum Newsletter
5327 Cascade Drive
West Bend, WI 53095

Please send your Questions, Suggestions, Articles, and photos to:
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