

# SPECTRUM

Northern Cross Science Foundation Newsletter

April 2020

## NCRAL convention canceled and rescheduled for 2022, NCSF meetings to be held online, Plunkett observatory closed

By Ernie Mastroianni

Due to the COVID-19 coronavirus pandemic, the NCRAL Vision 2020 convention has been cancelled, but the NCSF will host the meeting in 2022 to preserve the planning work that was nearly complete.

The General Meetings for April and May will be online, arranged by Northern Cross president Jeff Setzer through the Zoom online platform (see story below).

For April's meeting, Joyce Jentges will discuss NASA's Parker Solar Probe, a mission that will go closer to the sun than any previous spacecraft. There will be no Astronomy 101 presentation.

The Plunkett Observatory is closed after Wisconsin Department of Natural Resources officials ordered closures for all buildings, shelters and campsites in state parks. The good news, as of this writing, is that the parks including

Harrington Beach will remain open to visitors. All fees have been waived. See page 3 for the note from observatory director Dan Bert.

Northern Cross president Jeff Setzer said the NCSF board will continue to do business over their respective Slack channels and email. Other meetings affected include the rescheduling of the [Sheboygan Swap-n-Sell](#) event to sometime in the fall.

### Calendar

#### April 2, Thursday Monthly Meeting

Virtual, online at Zoom

#### Through April and May Board Meeting

Via Slack and email

#### May 7 Thursday

Monthly Meeting

Virtual, online at Zoom

#### May 1-2, Friday and Saturday

NCRAL meeting

Rescheduled to 2022

#### General Meeting

Post-pandemic

**7:00 p.m. Astronomy 101**

7:30 p.m. Main Program

Location:

GSC Technology Center

W189 N11161 Kleinmann

Dr. Germantown, WI

Please email editor Ernie Mastroianni with dates and times of any upcoming NCSF events:

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### How to attend the online virtual NCSF General Meeting

Hello friends,

I know we are all going through a lot with the COVID-19 pandemic, and as we all practice social distancing and "safe at home" we may feel somewhat isolated. In lieu of meeting in-person, we are going to have our April 2 General Meeting online. This is going to be new for many of you, and we have chosen the most flexible technology we could find to make it as easy as possible for our members to meet.

If you're getting this newsletter, you are on our email list and that means you will also receive an invitation from an online tool called Zoom. That email invitation will include a direct link to the meeting and a 9-digit meeting ID number. Here's what to do:

1. Around 7:20pm on April 2, use that link with any PC, Mac, Apple or Android mobile device to enter the meeting.

2. If you've never used Zoom on that device before, there will be a very short automatic installation that will occur.

3. Once the Zoom app comes up automatically, you will enter the meeting.

Zoom is a full teleconference tool, so if you're using a computer or device that has a webcam (most laptops, smartphones and tablet do) you will be able to turn that camera on using the Video Camera icon on the Zoom toolbar.

When 7:30 rolls around I will start begin the program for the evening, but I'll start the Zoom meeting about 15 minutes beforehand to let people in and help with any issues.

This is a new format for all of us, and we hope you'll take advantage of the technology available to us to get together as a group and talk some astronomy. We plan to do this for every General Meeting on the schedule until we can all get back to the GSC Technology Center and meet in-person once again.

Sincerely yours (from an appropriate social distance),

-Jeff Setzer, NCSF President



## Starlink satellites make an impression on NCSF observers

Before social distancing became necessary, Gene and Charlotte DuPree were sharing telescope views with a few neighbors at their home on March 6. But they saw more than they expected that night as a string of SpaceX [Starlink](#) satellites moved across the sky, shining at about 3rd magnitude and spaced just a minute apart. A couple weeks later, Mike Borchert witnessed a similar event.

### From Gene:

*I was out viewing and some of the neighbors stopped by. We noticed a satellite fly by and then another. We stopped counting but there must have been around 25 or more go by, in the same path, like a train. They were the Starlink satellites. I explained to them how it has/can/will affect astrophotography and the study of the stars. We had seen a small group of Starlink in the fall, I think it was a few days after the first group was launched. They were very close together and bright points of light.*

### From Charlotte:

*Gene was with the telescope when he called me to come out. When I got out there, he pointed to a satellite looking no different than an ordinary one. As that one disappeared, he pointed to the others following behind.*

*We go out often to see the International Space Station pass over. These satellites were not as bright as the ISS, Gene thought around 3rd magnitude. A few minutes later I looked up and there were more of them toward the horizon. We knew that they had to be the Starlink satellites. I counted more than 20 during the time I was out there, about 10 to 15 minutes. We had been explaining Starlink to the neighbors.*

*They could not believe that such a thing existed, and one man said that it was sad that something like this could happen to the night sky.*

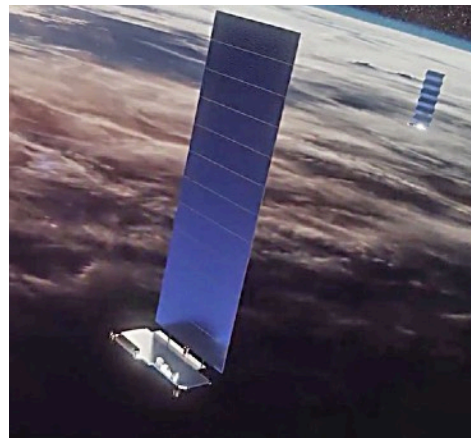
### From Mike:

*I had a futuristic moment after Ernie Mastroianni mentioned that the Starlink satellites were going to pass overhead that night from about 8 to 8:25. I went out and low and behold, about every 45 seconds, satellite by satellite came by. One after another they floated across the*



Numerous Starlink satellites create trails during this time exposure taken at Harrington Beach State Park on March 21. It was made by stacking 11 sequential photographs ranging from 15 to 25 seconds each, taken over a seven-minute span. Ernie Mastroianni photo

*sky, about 30 satellites in a long line. At any point, you could see about six satellites spread out. They were pretty bright, very noticeable.*



Starlink satellites. SpaceX illustration

The satellites viewed by Borchert and the DuPrees were from a [January 29, 2020, SpaceX Falcon 9](#) launch that placed 60 Starlink satellites into orbit. The satellites are about the size of a desk, but almost completely flat except for a single long solar panel. They'll transmit broadband internet to any spot on earth. The most recent Starlink launch was on March 18, when a Falcon 9 rocket successfully sent 60 more satellites into orbit on a reusable booster that made a record fifth flight.

That launch marked the sixth time that SpaceX sent internet satellites into a what will be a 340-mile high orbit. More than 350 have reached orbit so far. The

company has approval to launch about 12,000, raising concerns from astronomers about the impact they will have on ground-based observations.

The European Southern Observatory [commissioned a study](#) on the impact of this and other huge constellations of satellites on ground-based astronomy and found that observations will indeed be affected.

Hit hardest would be wide-field surveys with large telescopes. The study says that 30 to 50 percent of the exposures made by the [Vera C. Rubin Observatory](#) in Chile could be severely affected, depending on the time of night and time of year. The Rubin observatory is slated to open in 2022.

SpaceX, [aware of the adverse affects](#) from the satellites, has placed a test satellite into orbit (dubbed DarkSat) with reduced reflectivity surfaces to research solutions. SpaceX also notes that once the satellites reach their final altitude, they'll shine at around 5th magnitude. To find out how you can see the satellites, some online resources are available. One is [heavens-above.com](#), which keeps a database of hundreds of satellites and tells when and where they can be seen.

You can register at the website to find out when a particular satellite can be viewed from your location.

A second site, [CalSky.com](#), also provides useful information on satellite passes, including where and when a spacecraft can be seen from a given location. - E.M.

## Imaging report

Board member Mike Borchert photographed three celestial standouts (the Orion Nebula, the waxing gibbous moon, and Venus) on an early March evening at the Plunkett Observatory, using two cameras in a relatively short time frame of about three total hours.

Using his own narrow-field astrocamera, Borchert set up the 5-inch refractor with a two-power barlow and aimed the scope at Venus, displaying a phase slightly larger than a half. His camera, a ZWO ASI120 model, records on a 1280-by-960 pixel sensor at up to 72 frames per second.

With the barlow, the focal length of the refractor is an effective 2000 millimeters, long enough to easily resolve the phase of the cloud-covered featureless planet. He stacked dozens of frames using the Mac-friendly program Lynkeos. Then aiming the refractor (without barlow) at the moon, he shot the area around the crater Plato and the Appennine Mountains and captured this high-resolution scene.

Switching to deep sky requires a different camera. In this case, Borchert used the club's SBIG full color astrocamera. He made several exposures of just a few minutes each and stacked them using Nebulosity software, a popular and economical program that can be used to acquire and process images. While dedicated astrocameras produce the best results, unmodified digital SLR cameras can also be used to produce excellent images. Successful imaging requires knowing how to use the telescope, the club's camera or your own, and having software such as Nebulosity and Photoshop to process the images. - E.M.



Want to try astrophotography? The NCSF has a five-inch apochromatic refractor, precision mount and a dedicated astrocamera available for member use at the Plunkett observatory. Adapters for Canon and Nikon digital SLR cameras are also on hand. The learning curve is steep, long hours are necessary, and you'll need to buy some basic software for your own laptop. Contact newsletter editor Ernie Mastroianni for more details and to schedule a post-pandemic session.

## Observatory closed but parks remain open

Dear members of the NCSF,

In the utmost of caution and in lieu of what the Federal/State levels are mandating for COVID-19, the observatory at Harrington Beach State Park will be closed until further notice. [The Wisconsin Department of Natural Resources](#) is closing most all buildings in the parks, however, the state parks and trails remain open at this time.

We thank you for your understanding in helping both keeping our membership safe and the building free from any corona virus contamination. If you would like to stargaze in the parking lot you are free to do so but please do not enter the observatory building.

The board of directors will continue to evaluate the situation, watch for updates on our website [www.ncsf.info](http://www.ncsf.info), club newsletter and via email.

The DNR also places updates on [Facebook](#), and [Twitter](#).

Wishing you continued health and safety, keep looking up!

Dan Bert

Observatory Director, NCSF

### Looking ahead

Watch for updates and cancellations at the links

**June 18-21,  
Thursday to Sunday  
Wisconsin Observers  
Weekend (WOW)**  
Hartman Creek State Park  
[WWW.new-star.org](http://WWW.new-star.org)

**August 21-23, 2020  
Friday to Sunday  
Northwoods Starfest**  
Hobbs Observatory,  
Beaver Creek Reserve  
Fall River, Wisconsin  
[https://www.cvastro.org/  
northwoods-starfest/](https://www.cvastro.org/northwoods-starfest/)

Do you have stories or photos for the newsletter?

Send them to editor Ernie Mastroianni. Include dates, times and places.  
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**New Mequon venue for the annual NCSF banquet**

More than two dozen NCSF members and families gathered for the annual banquet at a new venue, the Libby Montana restaurant in Mequon. It might have been the last club gathering until at least June due to the coronavirus pandemic.

Only days after the banquet, such a get-together would not have been possible. - E.M.



From top: NCSF members and family enjoy the new venue.

Mariah Tremblay displays celestial jewelry fashioned with astrophotos taken by her father, Rick Kazmierski. She intended to sell the pendants at NCRAL, but they're now for sale to members, one for \$15, two for \$25. Contact her at [mariahtremblay@yahoo.com](mailto:mariahtremblay@yahoo.com)



Jeff Setzer shows a new Apollo 11 3D book to Mark and Marie Weber.



Veteran astrophotographers Rick Kazmierski and Tom Schmidtkunz discuss imaging techniques.



NCSF is a member of the [North-Central Region of the Astronomical League.](#)



NCSF supports the [International Dark Sky Association](#)

**SPECTRUM newsletter**

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