

SPECTRUM

Northern Cross Science Foundation Newsletter

June 2020



The Falcon 9 rocket and Dragon capsule carrying astronauts Robert Behnken and Douglas Hurley lifts off from Kennedy Space Center on Saturday, May 30. It marked the first time in nearly nine years that astronauts rode an American spacecraft to orbit. SpaceX photo

Historic launch lifts astronauts from US soil for first time in nearly 9 years

The SpaceX Demo-2 mission carrying US astronauts to the International Space Station launched successfully on Saturday, May 30, marking the first time the Dragon spacecraft carried humans into orbit. As astronauts Robert Behnken and Douglas Hurley gave a video tour from orbit, it

was clear that this roomy and spartan capsule was nothing like the Apollo spacecraft that last flew in 1975. The gauges and switches are gone, replaced by 21st century touch screens and computer automation. Read more about the commercial crew missions at [NASA.gov](https://www.nasa.gov). - E.M.



May meeting report

The May General meeting was again held online via Zoom with about two dozen NCSF members attending and club president Jeff Setzer presiding. Treasurer Gene DuPree reported \$12,498 in the account. Setzer reported that the Astronomical League officially instructed that all regions not have in-person conventions. All AL in-person events were canceled for the year due to the coronavirus pandemic.

Vice president Joyce Jentges and DuPree reported that they visited the Plunkett Observatory at Harrington Beach State Park and reported that the building was secure, although a puddle was seen on the floor and a piece of siding was coming off the east side of the building. The observatory remains closed to all visitors until further

notice, though the state park is now opened during pre-pandemic hours and open to stargazing from the parking lot.

Members discussed the Pike River Starfest, a last-minute announcement from Gerry Kocken, who owns land at a very dark sky site in Amberg, northern Wisconsin. Kocken felt the gathering could be held safely if attendees followed social distancing and other Centers for Disease Control guidelines. Gene and Charlotte attended the event in late May (see their report on page 2).

Setzer cautioned that visual astronomy presents a unique risk for spreading the virus when observers get close to telescope and binoculars eyepieces.

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June 4, Thursday

General Meeting

Online via Zoom
7:30 pm

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:
ernie.mastroianni@gmail.com

Observing report: clear dark skies at a northern Wisconsin star party

By Gene DuPree

Gerry Kocken, a member of the Neville Public Museum Astronomical Society in Green Bay, was the host for the annual Pike River Starfest in Amberg, Wis., three hours from our home. He has space for 20 people with telescopes to camp all while keeping with social distance.

This is the first year we have attended. In the past, he has had around 10 amateur astronomers present. This year the dates were May 20 to 24, and five persons attended. The new moon was on May 22.

He has a dark sky meter which read 21.78, on Wednesday night. The darkest sky can read 22. He compares the dark sky in this area to the Nebraska Star Party and says it is the darkest sky in Wisconsin.

Gerry did provide a couple of hot plates, a gas grill, and a dishwashing station for cooking your meals. If you do not wish to do your own cooking, there's a tavern in Amberg that serves food, and restaurants in Wausaukee and Crivitz. Gerry provide appetizers at 11:30 each night.



Clear skies, no light pollution, and an 18-inch Dob await Gene and Charlotte Dupree near Amberg, Wis.

On Wednesday and Thursday, we saw Venus and Mercury working their way toward conjunction. The Milky Way was impressive even though it was still low in the sky.

We were viewing until 2 a.m. both nights. For the non-campers, we discovered a small motel within walking distance. The motel also has a shower available for \$5. This area of the state is known for many waterfalls and outdoor activities. We asked Gerry to let us know when he has next year's dates so we can put it on the calendar. He told us the club works on the schedule in November

and it depends on the dates for the Wisconsin Observers Weekend. In the past few months, my viewing goal has been to see two or more galaxies, star clusters, planetary nebula in my eye piece field. A 24mm Radian is what I have been using the most. At Pike River, I was using our 18-inch Obsession with an assortment of Nagler eye pieces. The Ring Nebula, globular cluster M13, and galaxy NGC 6207 were bright. M51 spiral arms could be seen. When

looking at M81 you could see dust lanes. The nearby galaxy NGC 3077 was easy to find. Planetary nebula NGC 40 was visible with its bright star in the middle. It reminded Charlotte of the blinking nebula.

Naked eye you could see the rift and dust lanes in Cygnus, the North American Nebula, the Coat Hanger, and the Double Cluster in Perseus. Cassiopeia was very low on the northern horizon. We found a few of the Seyfert galaxies, along with dozens and dozens of other objects. - Gene DuPree

May meeting, from front page

With eyes, nose and mouth so close to the eyepiece, it offers a perfect opportunity to spread the virus to the next observer. Sharing views through optics, he stressed, is a no-no. Setzer also asked for ideas for virtual workshop types of activities, such as a Sky Safari workshop, astrophotography or other niche topics.

Also discussed was the University of Chicago's [announcement](#) that it has donated Yerkes Observatory and 50 acres of surrounding land to the Yerkes Future Foundation, a group dedicated to restoring and preserving the iconic observatory and the world's largest refracting telescope. [Read the Chicago Tribune story at this link.](#)

The main program was presented by Setzer, on How Telescopes Changed Our Understanding of the Universe.

- E.M.

How to attend the General Meeting on Zoom

Once again, the NCSF General Meeting will be online. If you're getting this newsletter, 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 June 4, 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's waiting room. I will let you in shortly after you appear in the "lobby."

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 begin the program, but I'll start the

Zoom meeting about 15 minutes beforehand to let people in and help with any issues.

We will be doing this for every General Meeting on the schedule until we can all get back to the GSC Technology Center and meet in person.

- Jeff Setzer, NCSF President

June program

The main program will be presented by [Tom Polakis](#), a member of the East Valley Astronomy Club in Mesa, Gilbert, Arizona and a retired engineer at Honeywell Aerospace.

He's been published in *Astronomy* and *Sky & Telescope* magazines and will soon be an observer/research assistant at Lowell Observatory. Join us as Tom discusses photometry and the science of light. As it will be a virtual meeting, look for the Zoom invitation in your email box.

- Mike Borchert

Imaging report: Overcoming lockdown and light pollution

By Ernie Mastroianni

When Harrington Beach State Park shut down, I lost a dark sky, but not the night. Though my Whitefish Bay back yard is partially blocked by trees and surrounded neighboring security lights, it was all I had to work with.

I chose some well-known and fairly bright targets to photograph and was surprised at how much detail I could eke out of galaxies M81, M106 and M63 in April

and May. A pre-dawn shoot of the classic Dumbbell Nebula revealed as much detail as an earlier image I made from Harrington.

And paying close attention to the website transit-finder.com, I realized that a space station transit would be visible from my yard as well. I also refurbished a long-neglected 8-inch Newtonian during the pandemic isolation. So despite the lockdown, I had a productive and satisfying spring season of stargazing.



The author's 8-inch Newtonian, tooled up for backyard photography in early May.



Clockwise from upper left: M27, M63, an ISS transit of the sun, and M81.

Looking ahead

Stargazing

Harrington Beach State Park

Open 6 am - 11 pm

Wisconsin parks have reopened for regular hours, and that means those actively involved in stargazing may remain after 11. Check the Wisconsin DNR for updates, hours can be subject to change

<https://dnr.wi.gov/covid-19/>

Closed until further notice: Plunkett Observatory

Cancelled

Wisconsin Observers Weekend (WOW)

June 18-21,

Thursday to Sunday

Hartman Creek State Park

WWW.new-star.org

Check for updates or cancellation:

Northwoods Starfest August 21-23, 2020

Friday to Sunday

Hobbs Observatory,

Beaver Creek Reserve

Fall River, Wisconsin

<https://www.cvastro.org/>

Virtual astronomy sites offer alternatives to in-person stargazing

Focus Astronomy has a virtual sky party every two weeks on Friday and the link can be found at <https://www.facebook.com/FocusAstronomy>. The most recent show, on May 29, featured the moon and was about 90 minutes long and is archived.

Sky-Watcher USA has a weekly "What's Up? Webcast" that covers a different astronomy subject every Friday, the link can be found at <https://www.facebook.com/skywatcherusa/>.

Check out the regular posts on our own NCSF Facebook page <https://www.facebook.com/NCSFAstronomy>

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



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

Imaging report: Learning software during daylight hours makes night imaging easier

By Mike Borchert

High on my to-do list was to investigate the software I use in astrophotography. When imaging at night, I've found it difficult to manage all the bells and whistles the software can offer. Fortunately, simulation modes are included with some programs. So it is possible to learn a great deal about imaging before you even step away from your desk.

I use a program called Nebulosity that runs the club's dedicated astro camera. It's available for Mac or PC computers running OSX or Windows. It also can be used to post-process subframes into a finished photograph. While you can certainly use your own digital single-lens reflex to shoot astrophotos, a dedicated astro camera allows a much wider bandwidth of light onto the sensor, allowing it to pick up the glowing red hydrogen alpha regions of many spectacular deep sky objects.

Nebulosity has simulator modes for practicing during the day. Online help is provided by Nebulosity maker [Stark Labs](#).

Practice images are freely available from the website of veteran astrophotographer [Jerry Lodriguss](#). The tutorials walk you through the processing, stacking, and stretching of light in your final product. If you want start with the post processing, borrow some images and start there.

The price is reasonable, at \$95. Even better, you can download it for free and use the software indefinitely, though it

will produce images with indelible watermarks.

Aside from running the camera and image processing, you'll need additional software to run the guide scope and second guide camera to correct tiny but visible tracking flaws. A very popular program is PHD2 (PHD stands for Push here, dummy). This software, by Stark Labs, is free. It has a learning curve, but I

found many good sources of information on YouTube, in the Cloudy Nights forums, and on the Stark labs website. It has a simulation mode to help you learn how it corrects the mount's movement to produce pinpoint stars. You'll save yourself some trouble by learning this software before heading out under the stars.

Processing is a rabbit hole that involves a lot of creativity and finesse. Your images will need more work and touchup than Nebulosity can provide. Software such as Photoshop, Gimp, Darktable, Photoshop Elements allow you to do further post processing. Darktable and Gimp are free shareware software, [Photoshop Elements](#) is one I picked for a few years ago, and retails at \$99. The

full Photoshop package requires a monthly fee, but is very powerful.

This software allows you to play with the rough image that you have eked out Nebulosity.

When you have time on a rainy day, or can't sleep on a cloudy night, curl up with your computer and investigate what these various software programs can do. Your night session will go smoother.



Borchert processes a moon image. He took this shot of the galaxy m51 in 2019.

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