

# SPECTRUM

Northern Cross Science Foundation Newsletter

April, 2019

## Looking Up

April 4, Thursday

### General Meeting

7:00 p.m. - Astronomy 101  
7:30 p.m. - Main Program  
Business Meeting to Follow

April 18, Thursday

### Board Meeting

7:30 p.m.  
House of Jeff Setzer

April 25, Thursday

### NCRAL Meeting

7:30 p.m.  
Home of Rick Kazmierski

May 9, Thursday

### General Meeting

7:00 p.m. - Astronomy 101  
7:30 p.m. - Main Program  
Business Meeting to Follow

May 26, Sunday

### Port Washington Street Festival

Noon - 5:00 p.m.  
Downtown Port Washington

May 26, Sunday

### Astronomy Day

Dusk - 11:00 p.m.  
Harrington Beach

## On Top of the World by Rick Kaz



Mauna Kea Telescope Array Observatories Left to right; Subaru, Twin Keck, NASA, Canada-France, & Gemini.

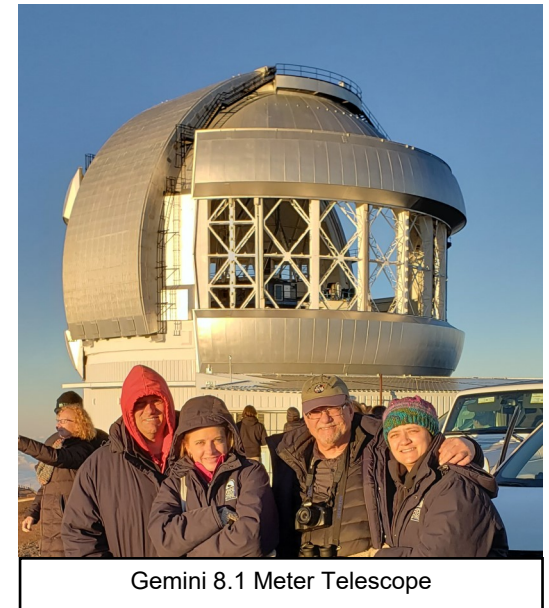
The first two weeks of March my son, daughter, and daughter-in-law took to the skies for the Hawaiian Islands. The last four days of our adventure were spent on the Big Island, Hawai'i. Even in the planning stages of the trip last year, I knew I wanted to visit the summit of Mauna Kea with its array of telescopes. Since the drive to the summit required a four wheel drive vehicle and included a 25deg. grade on narrow dirt road, I found a company that specialized in summit tours and signed us up. The tour also included winter parkas, gloves, and hats since the summit temperatures fall to below freezing after sunset.



Above the clouds on Mauna Kea Photo by Rick Kaz

Our trip up the mountain included a half hour layover at the visitor center. The purpose of the stop was to acclimate to the decreasing oxygen at the 9,000 ft. altitude. The tour guide pointed out that it was at this altitude in an adjacent housing facility that the Astronomers stayed when not working on the mountain. We then proceeded to the mountain summit at 14,000 ft. Getting off the bus left us a bit giddy and short of breath as the oxygen level at that altitude is only 40 percent that of sea level.

The tour is set to arrive for sunset, and what an experience that was. The setting sun was just left of the WM. Keck Observatories, the Japanese Subaru Telescope, and the NASA Infrared Telescope Facility. We were parked right next to the



Gemini 8.1 Meter Telescope

Gemini and United Kingdom Infrared Telescopes, which loomed above us. Eight world class telescopes share the summit. It was hard to comprehend everything I was seeing. **I was overwhelmed.** This is where leading edge science and discovery is being done! They say the sky conditions on Mauna Kea are arguably the best in the world, as we were soon to discover. Having to be off the summit after sunset, we proceeded down the mountain.

At around 12,000 ft. elevation our van driver stopped at a wayside pull-off and set up an 11" Celestron Schmidt Telescope. (Con't. on Pg.-4)

## Star Parties 2019 by Gene R. DuPree

It's that time of year again, what Star Party plans do you have? If you don't, WOW (Wisconsin Observers Weekend) is the place to start. WOW is held at Hartman Creek State Park, near Waupaca. This year it is May 30 to June 2. Jeff has reserved group site #5, for many years, for what we call pre-wow. This year some of us will be there starting Monday, May 27. So, come and join us for a fun time, even if you cannot attend WOW. The cost for WOW is \$20, or \$35 for a couple, and \$45 for a family. On Saturday afternoon there is an include ice cream social and astronomy swap and sell. You can find the registration form at Northeast Wisconsin Stargazers.

Another fun Star party is Northwoods Starfest near Fall Creek, East of Eau Claire, August 2-4. Registration includes midnight snack Friday and Saturday night. Saturday brunch and dinner, and Sunday breakfast. It is held at a youth camp, so there are bunk houses, that can be shared

with our group, or separate women and men cabins too. There is room to bring your camper if you tell them ahead of time, maybe join Jeff in the observatory for a short early morning snooze. The price has been \$75 the last few years. An optional brat fry is held on Friday night.

In the March Reflector there is a list of most of the Star Parties and conventions. So get out, and have some fun, warm weather is coming.

### KEEP LOOKING UP!



## Observatory News by Dan Bert

### New Observatory Door Code

Reminder that the observatory door code has been changed. Please contact the director if you need the new access code to enter the building. Also note the new observatory south door knobs function differently than the last knobs and will UNLOCK when turned from the inside. Please pay special attention to this and check the doors are locked from the

### Jim & Gwen Plunkett OBSERVATORY



## Harrington Beach Imaging Report by Ernie Mastroianni

Northern Cross members Ernie Mastroianni, Mike Borchert, Jerry Kohlmann and Bob Gershan gathered at the Plunkett Observatory on Monday, March 25 for a last minute shoot. Objects pursued were the Orion Nebula, which was getting low in the western sky but still well positioned for late season shoot.

The photo here is a combination of 8 images at 2 minutes each taken through Gershan's Canon 6D digital SLR, combined with another image made of 16 frames of 1 minute each, taken with the club's SBIG camera. The photo was taken through the five inch refractor. Gershan's camera is unmodified, so although it's sensitive chip recorded a wide arc of nebulosity, it was unable to see the deep red gas that makes M-42 so picturesque. Data from the club's SBIG camera, which shows the glowing red area, was added to this final picture.



Orion Nebula - M42 by HB Imagers

The galaxy M101 situated near the Big Dipper's handle, rides high in the northeastern sky and was well positioned to shoot that same evening. A series of 30 exposures at 2 minutes each revealed the spiral arms, but after some analysis, the 2 minute sub frames should have been 4 minutes, as the dim extent of the arms was not clearly defined in the final shot.

Member Tom Schmidkunz gathered data from the famous Carina Nebula (NGC 3372), using a remote telescope in remote Australia under Bortle class 1 skies using iTelescope. The instrument was a Takahashi FSQ 105 refractor at f/5. He took 8 subframes of 5 minutes in monochrome and processed this spectacular image using Nebulosity software.



M101 Photo by HB Imagers



Carina Nebula NGC3372 Photo by Tom Schmidkunz

## April General Meeting

**Astronomy 101** by Kevin Bert

### "Winter Sky Highlights"

Weather in winter is cold and often uncomfortable for outdoor activity. But for the star gazer that dresses appropriately and waits for a mild clear evening some wonderful naked eye and telescopic sights await. This class will explore some of these awe inspiring sites.

**General Meeting** by Mike Borchert

### Touring the Steward Observatory Mirror Lab

Back in January, I was able to take a tour of the Steward Observatory Mirror Lab. During April's meeting I will be giving a presentation of that tour. Ever wonder how a 20 ton piece of glass is cast, ground and polished? I found it very interesting and hope you will too.

### **Sheboygan Astronomical Society Swap-N-Sell** Rick Kaz

Once again our Club made a good showing at the Sheboygan Astronomical Society "Annual Swap-n-Sell" this past month. I counted seven NCSF members either buying or selling. Jeff Setzer gave a presentation on "3D Printing, Amateur Astronomer and Outreach in Unexpected Places", which I found quite inspirational.

My big purchase this year was an "Astroscan (2001)". Since Edmund Scientific first introduced the Astroscan in 1976 I have played with the idea of buying one, but never quite got around to it. Production of the scope stopped in 2014 and now the only way to purchase was to buy a used. The one I found at the Swap-n-Sell was bought new in 1981 and still had the designation (2001) in its name. The Astroscan was marketed as a space-age telescope and the year 2001 was supposed to suggest that image. Edmund later removed that from the name and it became simply the Astroscan.



My Swap Meet purchase. Rick Kaz

Reading up on its history I found that there were as many critics as there were admirers of the scope. Critics complained that Edmund advertised the scope as permanently collimated and provided no way of making adjustments if the optics were to shift. The buyers only options were sending it back to the factory or taking the scope apart and doing the difficult task of aligning it by hand. The focuser proved to be another issue, as it used a rubber wheel (as opposed to a rack and pinion system) that would press

against the eyepiece's base and move when the focuser knob was turned. But this wheel would develop 'flats' that made for a bumpy focusing experience, and in very cold weather it could shrink and not 'grab' the eyepiece properly. The original Astroscan had no finder scope because it was thought with such a wide field of view and a low 16x magnification using the provided eyepiece, no finder was needed. Unfortunately, they were wrong and eventually a sheet metal aiming device was developed, which my scope has. Later models had a red-dot finder added for aiming.

The really nice things about the scope include its portability and ease of use and set-up. It was also designed with an optical window so that dust and other debris entering the tube would be minimized. The body was developed out of ABS plastic to be as durable as possible, and was smooth enough so that it would 'roll' on its base without being so slippery as to move with a hard breath.

Fortunately, the scope I bought was really well preserved and even had the original carrying strap and base. Charlotte egged me on to buy it and even lent me the ten dollars I was short of the asking price. (I later payed her back!) Gene told me how they had taken one of their Astroscans on the plane when they flew to Africa on vacation because it was so portable.

I haven't yet decided whether to use my new purchase or display it somewhere in my house. I suppose I could do both!



## Related Info

### Star Parties 2019

**NCRAL**

**May 3 - 5**

Moline, IL.

2019NCRALInfo@gmail.com

**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**

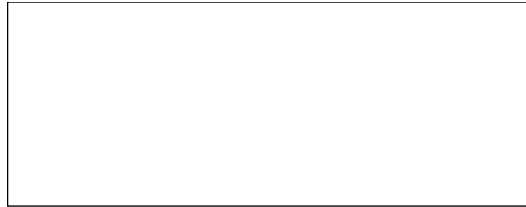
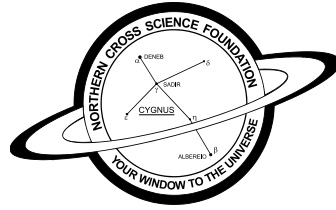
Hobbs Observatory

Beaver Creek Reserve

Fall Creek, WI.

www.cvastro.org

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### 2019 Board of Directors

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(Con't. From Pg.-1)

I wasn't really interested in the common objects he was showing everyone, but I was blown away by the naked eye sky! It wasn't long after the two day old crescent moon set that the zodiacal light became visible in the west. It was like a column of light coming from the top of a mountain peak and was visible for several hours. I'd never seen it before! The Winter Milky Way was bold all across the sky through Cassiopeia.

Hawai'i is the most southern point of the United States at 19 Deg latitude. (Key West Florida is 21 Deg.) As a result, I got a neck ache viewing the Orion constellation nearly overhead. I asked the tour guide what the bright star about 25 deg above the southern horizon was and he identified it as Canopus, a star I've never seen before. It has a declination of minus 52deg! The sky was so clear and bright at times I had difficulty picking out known constellations.



### SPECTRUM

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



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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