

SPECTRUM

Northern Cross Science Foundation Newsletter

April, 2018

Looking Up

April 5, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

April 7, Saturday

Observatory Training

Panarusky Telescope

7:30 p.m.

Harrington Beach

Leader Kevin Bert

April 19 Thursday

Board Meeting

7:30 p.m.

House of Jeff Setzer

April 26, Thursday

NCRAL 2020 Meeting

7:30 p.m.

House of Mike Borchert

May 3, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting Follows

May 27, Sunday

Port Washington Street Festival

Noon - 5:00 p.m.

Downtown Port Washington

May 27, Sunday

Astronomy Day

Dusk - 11:00 p.m.

Harrington Beach

Astronomy Online *by Jeff Setzer*



There are several places on the Internet where you can buy and sell astronomy equipment — including Craigslist, eBay, and various social media groups — but the king of online telescope classifieds is definitely Astronaut.

Back in the old days, if you wanted to buy and sell used astro gear, you looked to the classified ads in *Astronomy* and *Sky & Telescope* magazines. There was not nearly enough room for the demand, however, so in 1986 a pair of enterprising amateur astronomers started publishing *The Starry Messenger*. The *Messenger* was printed in a tiny font, with minimal pictures, on cheap newsprint, and was published with regularity. Initially, it was free, but over time it became so popular that they began charging subscriptions similar in cost to regular astronomy magazines.

In the 1990s, personal computers began to regularly connect to online bulletin-board services (BBSs), and those BBSs soon began networking together (Google FidoNet if you're curious). Astronomy classified ads started popping up on these systems, but the *Messenger* was still the de-facto place to do "business." Once the "big I" Internet started becoming a household utility, however, the BBSs and *The Starry Messenger* quickly faded into history, and before the turn of the century, Astronaut was already THE place to buy and sell used telescopes.

Initially, Astronaut was run by a few hobbyists, and people could place their ads for free. Like *Cloudy Nights*, however, Astronaut became too

big to run as a hobby, so Anacortes Wild Bird & Telescope took it over. It continued to be free for a short while, with ads from AWBT displayed, but it soon became a situation where it didn't make business sense to continue without user support, and the subscription model we know today was implemented.

You can browse Astronaut for free, but you can't see prices and you can't place ads or respond to them. If you want to do those things, you need to subscribe. Fortunately, Astronaut has a variety of annual subscription levels, including one for \$15/year. Your subscription does not automatically renew, so you can spend \$15 and if you forget about it months later, you're not going to be on the hook automatically — although on your next visit, you'll be prompted to renew your subscription.

Just as *Cloudy Nights* does a little bit of everything, but specializes in online forums, Astronaut has a lot of content, but here it's all about the classifieds. Most are classic classified ads, but there is a section for auctions if you'd like to go that route. Astronaut takes a small % of the sale, but it's very minimal, and buyers pay nothing once they're members.

Unlike other astronomy used gear outlets, Astronaut has a rigidly-enforced user rating system and code of conduct; as such sites go, Astronaut is the most secure I know. I have bought many items from Astronaut folks over the years, and several of my friends have sold items on Astronaut, and I've heard no complaints.

I could go on about the ad categories and sample content, but there's far too much for me to fit into this article. Like I said, Astronaut is free to browse, so I encourage you to do just that; the URL is easy enough to remember: www.astronaut.com.

Stephen W. Hawking dies at 76. *Internet*



Physicist Stephen W. Hawking died on Wednesday, March 14, 2018. But he was more than just a physicist. He was a best-selling author, an inspirational speaker and a cultural icon, and all while suffering from a debilitating neurological disease. Hawking will perhaps be best remembered for his best-selling book, "A Brief History of Time", which sold more than 10 million copies and was on the *Sunday Times* bestseller list for over 5 years. Surely a testament to Hawking's fascinating ideas on black holes, the big bang and the future of the universe.



There was no March 2018 Business meeting because of the Annual Holiday Banquet which replaced it. The Banquet was once

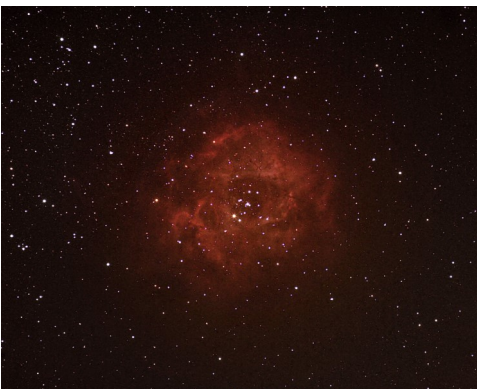
more a big success. Held at the Fox and Hounds Restaurant in Hubertus, everyone enjoyed great food and comradery.

Two Roses *Ernie Mastroianni*

From two telescopes at the Plunkett Observatory at Harrington Beach come these two versions of the Rosette Nebula, a large but dim molecular cloud of hydrogen about 5,000 light years away in the constellation Monoceros, just east of Orion. This nebula's brightest areas are distributed over a width of about four full moons. The brighter knots of nebulosity can be seen visually with a UHC filter under dark clear skies even in telescopes of modest aperture

The wide field version was taken by Northern Cross member Tom Schmidtkunz on March 17, using a modified Canon DSLR and a 300mm f/4 telephoto lens, which he normally uses for bird photography. He combined 10 exposures of 150 seconds using Nebulosity software.

But his novel approach was to mount the camera and lens on the back of the Panar-



Wide Field image of the Rosette
Photo by—Tom Schmidtkunz

usky 20-inch telescope. The scope's mount is so massive that the camera rides along nearly unnoticed, mounted on a small ball head that is permanently installed near the finder. The drive is accurate enough that short exposures with a lens of this focal length do not show evidence of periodic error. The stars remain round, without the need for corrective guiding.



Narrow Field image of the Rosette Nebula
Photo by—Ernie Mastroianni & Mike Borchert

The narrow field view was taken by members Ernie Mastroianni and Mike Borchert on March 9 using the club's five-inch refractor and SBIG color camera. They gathered 19 frames at 3 minutes each and combined them with 4 dark frames to make this photo showing the central area of the nebula and its dark twisting lanes, set among the brighter stars of the open cluster NGC 2244. And yes, at this scale, corrective guiding is a must.



Astronomy & Astrophotography—Part 2

By Mike Borchert

There are many things to consider in photographing the sky. Computers and software turn out to be a big decision right from the start. Are you a PC or a Mac person? This is directly related to the software you are going to use, what will that be? Ask ten people what is the software they use and you will get eleven different answers. What kind of support does the software have, how robust is the software? Remember there are about 5-6 jobs that need to be accomplished in order to get a finished, processed picture. One for each job, or, some of the software will do it all.

What is the price tag of the software, some are freeware, and others vary in price for what they can do. My experience with software is that they are constantly being upgraded; they are somewhat very involved to learn in the first place. Once you choose a software and operating system, it will be hard to change. Change can be difficult and expensive. Astronomers are usually people who share and I have had many discussions covering just this subject. Also, the software may be called out for you, depending on the equipment you choose to use. The software drives the scopes you will use. The Internet is a plethora of information on this subject, and sometimes a bit overwhelming.

Speaking of equipment. As members of the NCSF, there are some beautiful pieces of equipment begging to be learned and used properly. Or, are you planning to use your own, portable equipment? Or, possibly a combination of both. Speaking of equipment. It is fun to drop in at the observatory on a public viewing night, or any night when fellow members are around. Some of my most memorable nights those which end in discussions in which much is learned and even more is uncovered to be learned.

April General meeting

Astronomy 101 - Kevin Bert

"Variable Stars"

The April 101 class is entitled "Variable Stars." The casual observer may not be aware that some stars vary in brightness over time. It is one area that amateur astronomers can make valuable contributions with often simple equipment. Chapter 11 of the Universe Sampler explores variable stars and offers four examples to pick from to satisfy the required monitoring of two variable stars.

Constellation of the month;

Puppis

Main Program - Jeff Setzer

"Visit to the Griffith Observatory"

Jeff Setzer will tell us all about his recent visit to the famed Griffith Observatory in Los Angeles, California. This is an amazing public astronomy facility that would make any astronomy enthusiast jealous, even with the light pollution! Be sure to catch Jeff's impression of a truly unforgettable evening of popular astronomy in the City Of Angels.



March Public Viewing Events

Spring Equinox Celebration at the Mitchell Park Domes - March 20

By Charlotte DuPree

We were invited to do solar viewing, for the Spring Equinox Celebration, at the Mitchell Park Domes on Sunday, March 18. There are many vendors, selling their wares, and activities for children in the Domes annex. We set-up solar telescopes a short distance from the front door. We had a clear sky for the whole day this year. Unfortunately, the sun showed no sunspots or prominences as the sun is in solar minimum. We were asked lots of questions from adults and children. There was a steady flow of people all day, and at times the entrance line had 30 or more visitors waiting to get in. Gene spent most of his time explaining how the human sundial works. The directions are not conveniently close enough for reading. You have to stand on the correct month, and put your arms over your head. The shadow you create lands on two rows of arched numbers, (one for daylight saving time, one for real time) pointing to the time of day. We also had a table, inside the atrium, with our hand-outs and display items.



Charlotte DuPree demonstrates the proper use of the human Sundial at the Mitchell Park Domes.

Scout Troop 836 Astronomy Merit Badge Event - Harrington Beach - March 16

By Rick Dusenbury

On Friday, March 16th, I drove out to Harrington Beach to meet Mike Borchert who was planning on some astrophotography. Soon, Boy Scouts from Troop 836 in Cedarburg would be arriving to set up camp in the group area. Some of these would be working on the requirements for Astronomy merit badge. Mike and I kept looking at the sky, but the clouds were persistent, so we called it a night and hoped for better skies Saturday. Mike departed for home and I went over to help the scouts set up their camp. They had arrived with several adult leaders including NCSF member Rick Wandsnider. The telescope remained in the car and I also departed for home under still cloudy skies.

The next day dawned clear and sunny and prospects looked good for the evening. I went back out to the park around 5:00 PM and set up my telescope in the group camp and showed the scouts how to safely look at the sun, however there were no sunspots! During much of the

Con't. Pg-4

RELATED INFO

Conferences 2018

NCRAL

May 4 - 5

Surgeon Bay, Wi

Door Peninsula Astronomical Soc.

www.doorastronomy.org

ALCON

July 11 - 14

Minneapolis/St. Paul, Minnesota

Minnesota Astronomical Society

alcon2018.astroleague.org

Star Parties 2018

Pre-WOW

July 7—11

NCSF—Jeff Setzer

WOW

July 12 - 15

Hartman Creek State Park

WWW.new-star.org

Northwoods

August 17 - 19

Hobbs Observatory

Beaver Creek Reserve

Final Dues Notice

If you have not yet paid your 2018 NCSF dues you will find a Dues Notice enclosed. This final notice is an opportunity to remind members who want to remain on our roster to take care of their status.

Simply follow the instructions on the notice and return to Treasurer Gene DuPree.

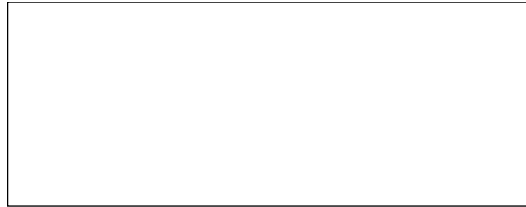
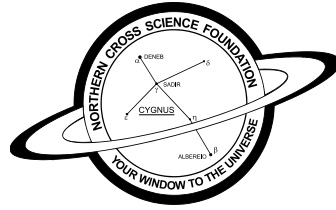
April Planets, by Gene R. DuPree

April starts out with Venus getting higher in the western sky, and a full Moon. Around 10:00pm Jupiter rises in the east. Its 2am before Mars and Saturn rise in the east. They will be playing tag as Mars moves a lot faster than Saturn. Venus will be 5° north of the Moon on April 17th.



Gene DuPree provides Solar Viewing at the for the Equinox Celebration.

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Con't. from Pg-3

day, the scouts were receiving instruction from club members: Jeff Setzer, Kevin Bert, and Joyce Jentges at the observatory and picnic shelter. When I arrived, Joyce and Jeff were giving a talk on the moon and Kevin was preparing a lunar crater simulator using wooden boxes and different grades and colors of sand.



Kevin Bert instructs Scouts on solar viewing.

As it began to get dark, I went back over to the group camp where the scouts were preparing dinner. Looking to the west, Venus first glowed brightly, and then Mercury appeared slightly above and to the right! I explained to the scouts that Mercury is quite difficult to observe and that this is one of the best times to see it this year.

Later under very dark skies, it was time to go on the hunt—for galaxies and other deep sky treats. Orion was still high in the Southwest, so naturally, M42 (with the Trapezium) was the first target of the night followed by M78 also in Orion. Then on to Taurus for the Pleiades and the Crab Nebula M1. Next were star clusters M41 in Canis Major and M35 in Gemini. Turning to the North, we looked at the wonders in Ursa Major: galaxies M81, M82, and nearby NGC 2976, galaxy M108 and the owl nebula M97 in the same field, galaxies M109, NGC 3953, M101, and just across the border into Canes Venatici; the whirlpool galaxy M51. Next up was Leo with the Leo Triplet; M65, M66, and NGC 3628 all in the same field, followed by another triplet; M95, M96, and M105. So, it was good hunting tonight, if galaxies are in your sights.

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:
rickkaz@charter.net