

# SPECTRUM

Northern Cross Science Foundation Newsletter

January, 2020

## Looking Up

### January 2, Thursday

#### General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

### January 3, Friday

#### NCRAL Meeting

7:30 p.m.

Home of Rick Kazmierski

### January 16, Thursday

#### Board Meeting

7:30 p.m.

Home of Jeff Setzer

### January 18, Saturday

#### Ski & Hike

5:30 p.m. - 9:00 p.m.

Horicon Marsh

### February 1, Saturday

#### Ski & Hike

5:30 p.m. - 9:00 p.m.

Ice Age Center

### February 6, Thursday

#### General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

### February 8, Saturday

#### Ski & Hike

6:00 p.m. - 9:00 p.m.

Pike Lake Beach Area

## NCRAL 2020 Update *By Jeff Setzer*



The NCRAL 2020 Convention is progressing at a steady pace! Our theme is "Vision 2020" which, in this context, suggests a clear view of amateur and professional astronomy. To that end, we have an exciting list of confirmed speakers:

Dr. William Dirienzo, Assistant Professor of Physics & Astronomy at University of Wisconsin-Sheboygan

Pranvera Hyseni, founder of Astronomy Outreach Of Kosovo

Kate Meredith, Founder & Director of Educator at Geneva Lake Astrophysics & STEAM

David Prosper, Program Manager for Amateur Astronomy at the Astronomical Society of the Pacific & Administrator of the NASA Night Sky Network: "The Latest From The NASA Night Sky Network"

## March 2020 Annual Dinner *by Gene R. DuPree*

The attendance, the past few years, for the annual dinner has been dropping. We have decided to make a change and move the location closer to where our club members live. The restaurant, Libby Montana, has been chosen. It is located in Mequon, 5616 W. Donges Bay Rd., near 57th St. You will not have to prepay and choose from a limited meal selection, as we have had the past few years. We will be able to order off the menu, and have separate checks, with a cash bar. We are hoping, this will be more convenient, and more of the membership will be in attendance.



Libby Montana Restaurant

The annual dinner will be held on Thursday, March 5th. Arrival is 6:00 pm and ordering dinner around 6:30 pm. This is a gathering to meet club

Dr. Angela Van Sistine, Research Assistant at University of Wisconsin-Milwaukee: "Astrobiology: Life Beyond Earth"

Brandon Hamil, Minnesota Astronomical Society: "The Traveling Astronomer"

Banquet Speaker: Dr. Francis Halzen, "Gregory Breit Professor and Hilldale Professor" at University of Wisconsin-Madison, and Principal Investigator of the IceCube Neutrino Observatory in Antarctica

We have a few additional speakers for Friday and Saturday being confirmed, in addition to finalizing a few topics, so be sure to check the website for updates. Additional activities on Friday include a tour of the Jim & Gwen Plunkett Observatory at nearby Harrington Beach State Park, which features some upgrades to the building and the instrumentation since our previous NCRAL hosting. Other Friday afternoon and evening activities are being discussed by the committee, as well; again, updates will be forthcoming.

members, and you may bring a guest. I will need a count to make the reservation. Please call me before Thursday, February 20, if you are going to attend. We have an old fashion answering machine so you can leave a message.:

262-675-0941.



Libby Montana Dining Area

## December Meeting Minutes

By Kevin Bert

The December 2019 Business meeting of the Northern Cross Science Foundation was held at the GSC Technology Center in Germantown. President Jeff Setzer called the annual meeting to order at 7:30pm and welcomed 22 members and guests. He then asked for standard reports.

Treasurer Gene Dupree tells us that there is a balance of \$10,615.20 in the regular account with a balance of \$394.18 in the Observatory account.

Secretary Kevin Bert reports that the current roster remains at a total of 59 members. There was no Astronomical League news.

Observatory Director Dan Bert reports that lighting issues remain at the forefront. A solution is hoped for in 2020. Kevin Bert says he would like to have one more Observatory training night this year and you should contact him if you are interested. If it is clear you should prepare for the cold.

2020 NCRAL convention organizers Jeff Setzer and Mike Borchert tell the membership that Saturday speakers are lined up. A detailed review of the speakers can be found on line in the winter 2020 Northern Lights newsletter archive at our North Central Region's web site. <https://ncral.wordpress.com/> Take time to check it out along with other Astronomical League information in our region. We are reminded to keep the first weekend in May open for this special convention.

Jeff Setzer noted that Meade instruments filed for bankruptcy following its loss of a multi-million dollar antitrust law suit from Orion Telescope and Binoculars. Stay tuned for future announcements on this topic.

Jeff then turned to the elections. To review, Joyce Jentges, Rick Kazmierski, and Gene Dupree will complete their three year term on the board of directors at the end of the year. Each of them were again nominated and all nominees said they will serve if re-elected. Jeff Setzer opened the floor for additional nominations to the board of directors. With no other nominations offered,

Chris Grenda motioned to close the nominations and it was seconded by Mike Borchert. The membership gave verbal confirmation. Aris Penikis then motioned to elect all three nominees by verbal acclamation. Chris Grenda seconded the motion so Jeff asked for all in favor to respond by saying aye. The motion passed with no member opposed. Congratulations to the new /old board members for another term.

With no more new business Jeff reminded members that the public viewing schedule is finished for the year. The upcoming events for 2020 start in January with a telescope viewing night on the 18th at Horicon. The Ice Age Center has a Ski and Stars night on February 1st. Pike Lake has a Ski and Stars viewing event on the 8th of February.

With no further business, Joyce Jentges made a motion to close the meeting. Chris Grenda seconded and by unanimous consent Jeff closed the business meeting at 7:55 pm.

## Dramatic Dimming of Betelgeuse *by Rick Kaz*

If you haven't been out at night this winter, you might want to take time to look at the constellation Orion, which dominates our winter sky. If your familiar with this pattern, it may look a little strange to you. This is because Betelgeuse, the dominate red giant star which marks Orion's left shoulder has got a lot dimmer in the past year. It began dimming in October dropping from the 10<sup>th</sup> brightest star in the sky down to number twenty by mid-December. It is the dimmest its been in a 100 years.

Betelgeuse is a variable star and does normally dim in brightness by several magnitudes over time, but the current dramatic decrease is startling and suggests a new dynamic in the star. Betelgeuse is a red giant which burns hot and fast, being only 8 million years old. Scientist estimate that it will eventually explode violently as a supernova. Speculation abounds as to when this may occur. It could be tomorrow...but probably not for the next hundred thousand years or so.

Rigel is a hot bright star which marks the right foot of Orion. It generally shines equal to Betelgeuse, but now can be visually seen significantly brighter, clearly outshining Betelgeuse. Use Rigel to compare brightness.



Recent photo of the constellation Orion with red Betelgeuse left of center and blue-white Rigel lower right..

## Holiday Party *by Rick Kaz*

The Northern Cross Science Foundation Holiday Party at the December General Meeting was again this year the place to be. After the annual meeting we adjourned to to break area for food and desserts.

Following the food we began the White Elephant exchange. Aris drew a store bought Tasco Telescope to the amazement of all present. He said he'd probably sell his Apo Refractors now that he'd been gifted such a quality scope. LOL

From my perspective, the most interesting white elephant gift of the night was received by Jason Kaz. His gift was a homemade Spectroscope, gifted by Mike Borchert and made years ago by a former NCSF member. When looking at normal light, a continuous spectrum is seen. However, when Jason took the spectroscope outside and viewed the parking lot lights, the spectrum produced showed numerous absorption lines. The significance of the electromagnetic spectrum in science became more real for me that night.



Jason's spectroscope. Notice the 1/2 binocular (sawed off) used to image the spectrum produced.

## January General Meeting

### Astronomy 101 *by Kevin Bert*

#### "101 Quiz"

The January class will look back in a fun way at last year's 101 topics by giving members an opportunity to answer 101 questions and win prizes. All members will have a shot at a prize, with a random drawing too. So brush up on your 101 notes and be sure to attend.



Wasn't listening during Astronomy 101!

### Main Program

#### "Astro Show & Tell"

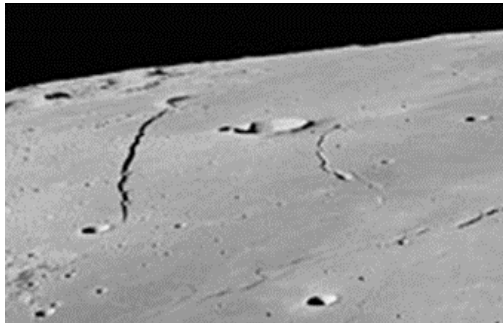
We will have a Show and Tell session for members to display and describe any purchase, gift, or project from this or past years. If you have acquired or made some Astronomy related item you think might be of interest to fellow members bring it to the January meeting.



## Lunar Structure "The straight Wall" *Posted by Gene Dupree*

**Rupes Recta** is a linear fault on the Moon, in the southeastern part of the Mare Nubium. The name is Latin for *straight cliff*, although it is more commonly called the *Straight Wall*. This is the most well-known escarpment on the Moon, and is a popular target for amateur astronomers.

When the sun illuminates the feature at an oblique angle at about day 8 of the Moon's orbit, the Rupes Recta casts a wide shadow that gives it the appearance of a steep cliff. The fault has a length of 110 km, a typical width of 2–3 km, and a height of 240–300 m. Thus although it appears to be a vertical cliff in the lunar surface, in actuality the grade of the slope is relatively shallow.



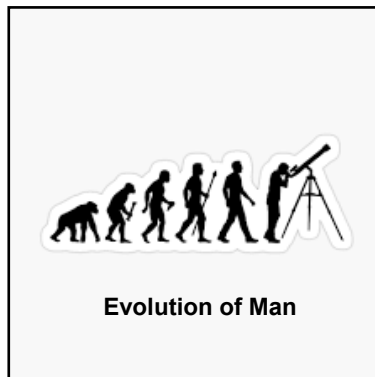
Oblique view of Rupes Recta (left), Birt (center), and Rima Birt (right),

To the west of this escarpment is the crater Birt, which is about 17 km in diameter. Also to the west is the Rima Birt rille. At the southern end is a group of hills often called the "Stag's-Horn Mountains", although this name is not officially recognized by the IAU.

To the northeast is the crater Alpetragius, and to the east is Thebit.



*Rupes Recta (and Rima Birt) - photo taken from Earth at 15 000 mm focal length by Georgi Georgiev, Stara Zagora, Bulgaria. Since this is a telescopic view, this image is inverted.*



Evolution of Man

## Related Info

### Leaders for Public Events

#### January 18

Horicon Marsh

Gene & Charlotte DuPree

#### February 1

Ice Age Center

Gene & Charlotte DuPree

#### February 8

Pike Lake

Gene & Charlotte DuPree

### Star Parties/Conferences

#### NCRAL 2020

May 1-2

Port Washington Country Inn and Suites

Hosted by Northern Cross Science Foundation.



#### W.O.W.

(Wisconsin Observers Weekend)

June 18 –21, 2020

Hartman Creek State Park

[WWW.new-star.org](http://WWW.new-star.org)



#### Northwoods

August 21-23, 2020

Hobbs Observatory

Beaver Creek Reserve



## 2019 Board of directors

**President - Jeff Setzer**  
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## **SPECTRUM**

Published by the Northern Cross Science Foundation, Inc. A nonprofit organization based in Southeastern Wisconsin.

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.

## **North and South America, At Night** NASA

Along with all of their space-exploration, planet-hunting, and astronomy-based endeavours, NASA also keeps a very keen eye on Earth. In fact, they have 18 satellites whose job it is to look only at Earth. And those 18 advanced satellites are helping us understand Earth in unprecedented scientific detail.

And they take pretty pictures, too.

NASA just released a night-time composite satellite image of North and South America. The image features data from the Suomi NPP (Suomi National Polar-orbiting Partnership) satellite overlaid on Blue Marble imagery of Earth. The image is from NASA's e-book Earth At Night.

Satellite imagery of Earth serves two purposes, and NASA is well aware of that. They provide crucial scientific information about the health of our planet and our activities and presence on Earth. But they also provide inspiring images for we non-scientists. And NASA hopes more of us find it engaging.



**There doesn't appear to be a worse place in the Americas for dark sky observing than NE Illinois & SE Wisconsin.**

### 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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