

S P E C T R U M

Northern Cross Science Foundation

May 2022

After Two Year Delay, NCRAL Regional Meeting Is Ready to Go

Hello NCSF members,
Things are coming together for the upcoming NCRAL VISION 2022 conference at the Country Inn & Suites in Port Washington on May 13-14, 2022. The committee continues to work out the final details, acquire supplies, and just in general check things off a (rather long) list.



From associate and contributing editors of *Astronomy* and *Sky & Telescope* magazines, to the administrator of the NASA Night Sky Network, we have representation from well-known institutions of amateur astronomy.

From the realm of cutting-edge professional astronomy, we have Ph.Ds. who will take us through the entire electromagnetic spectrum with instruments around the world, and even down to Antarctica and world's largest neutrino observatory.

All NCSF members urged to attend

Our deadline for the conference registration has been extended! While we

gave our caterer the "rough count" already, we can take new registrations right up to May 12; if you haven't got around to registering yet, this is good news!

The [NCSF website](#) has been updated with the final speaker list AND full schedule for Friday and Saturday.

Finally, a note for clarity's sake: no NCSF members are receiving a free badge for NCRAL VISION 2022. This includes volunteers and committee members.

We're all supporting the conference in many ways, and paid admission to cover the costs of the speakers, venue, and food is the way we can all do that.

Information and registration (online or mail) is at <https://ncsf.info/ncral-vision-2022-online-registration/>.

Friday activities:

- **Library Telescope** workshop showing some of the construction steps as well as lessons learned from our experience with the program.
- A tour of the **Jim & Gwen Plunkett Observatory** at nearby Harrington Beach State Park, which features some upgrades to the building and instrumentation since our previous NCRAL hosting.
- A rousing game of Astronomy Bingo!

Astrophoto contest

We will be hosting a friendly astrophotography contest at NCRAL VISION 2022! Take a look at the [rules](#) and use the [entry forms](#) to enter.

We look forward to showcasing the imaging talent on our Region.

I hope to see all of you there!
- Jeff Setzer, NCSF President

See page 2 for the full schedule

NCSF April General Meeting Minutes

President Jeff Setzer opened the meeting at 7:30 with 14 members in attendance. Mike Borchert's presentation was on the Dark Skies. There was some discussion on the present state of dark skies and astronomy

Vice President Joyce Jentges asked for help at the Random Lake High School Conservation Fair, April 30th, 2022. Northern Cross will have a booth at the fair with information about light pollution. Joyce was looking for a few telescopes capable of looking at the sun, to be set up outside. Joyce also welcomed help manning the booth. The event will take place from 11am-3pm that Saturday.

Treasurer Gene DuPree reported \$12,701.11 in the club's general account.

After sending an email blast concerning membership renewals, Jeff mentioned the club roster is finalizing. Mike also mentioned that roster would be included in an upcoming issue of the online newsletter.

May 5 General Meeting Program: Unusual Galaxies by Jeff Kanipe

Jeff Kanipe is an experienced science writer and editor specializing in astronomy. He's the author of nine highly-received science books, most recently the multi-volume astronomy guide [Annals of the Deep Sky](#), which *Sky & Telescope* calls "the next great deep-sky handbook."



Asteroid [Jeffkanipe](#) is named in his honor, for his role in identifying the earliest known image of it.

Jeff discussed the ongoing search for a new public location for physical, in-person club meetings. Jeff mentioned that because most of the board is also on the NCRAL convention committee, that search was taking a backseat at this time. Jeff looked forward to a time when the board could devote more time to that search.

See page 2

Looking Ahead

May 5, Thursday 7:30 pm
General Meeting
via Zoom

May 13-14
NCRAL convention
Country Inn & Suites
Port Washington

May 15-16
Total lunar
eclipse
Begins 9:28 pm
See page 3



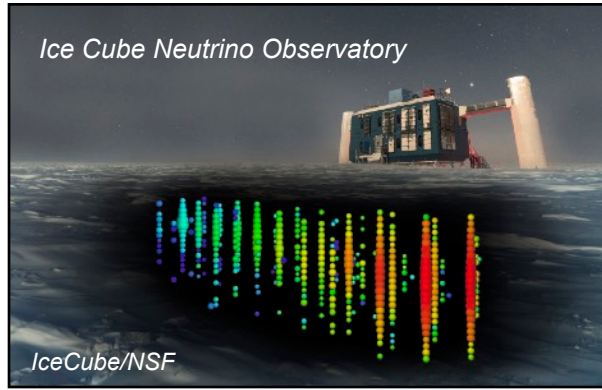
June 23-26
**Wisconsin Observers
Weekend (WOW)**
Hartman Creek State Park
Waupaca, WI

More events listed on page 2

NCRAL VISION 2022 Conference Schedule (subject to change)

Friday May 13:

10 am: Registration desk opens
1 pm: Library telescope workshop
3 pm: Lynda Schweickert - Iowa County Astronomers: "Space For All: Welcoming Newcomers To Your Astronomy Club".



4 pm: Dennis Roscoe: Astronomy Instructor at the University of Wisconsin-Milwaukee, Waukesha Campus: "Next Generation Telescopes"
5 pm: Dinner (on your own)
8 pm: Jim and Gwen Plunkett Observatory Open House

Saturday, May 14:

8 am: Welcome and Announcements
9 am: Dr. William Dirienzo, Assistant Professor of Physics & Astronomy at University of Wisconsin-Green Bay, Sheboygan Campus: "ALMA and Large Observatories in the Era of Big Science"
10 am: Dr. John Friedman, Distinguished Professor Emeritus of Physics at University of Wisconsin-Milwaukee: "Alchemy And Stardust"

11 am: Kate Meredith, Founder & Director of Education at Geneva Lake Astrophysics & STEAM: "Double Vision — GLAS Education's View of Astronomy Education"
 Noon: catered lunch
1 pm: David Prosper, Program Manager for Amateur Astronomy at the Astronomical Society of the Pacific & Administrator of the NASA Night Sky Network: "What's New at NASA's Night Sky Network?"

2 pm: "Astro" Bob King, Retired Photo Editor of the Duluth News Tribune, publisher of "Astro Bob" blog since 2008, contributing author for *Sky & Telescope* and *Universe Today*, and author of [astronomy books](#): "New Frontiers In Naked-Eye Observing"
3 pm: Dr. Alison Klesman, Senior Associate Editor of *Astronomy* magazine: "Multiwavelength Astronomy"
4 pm NCRAL Council Meeting
5:30 pm: Cocktail hour (cash bar)
6 pm: Dinner and awards
7 pm: Keynote speaker **Dr. Francis Halzen,** Gregory Breit Professor and Hildale Professor at University of Wisconsin-Madison, and Principal Investigator of the IceCube Neutrino Observatory in Antarctica: "Ice Fishing For Neutrinos"

April General Meeting

from page 1 Any ideas from club members would be welcome and be researched at a later date.

Jeff reported from the NCRAL committee, that the NCRAL regional event hosted by our club was coming along nicely. Jeff encourage all NCSF members to register. There will be national and regional speakers This will be a chance to learn, engage, and socialize with other astronomical members.

Jeff also encouraged members to check for public events coming up. The online calendars, as well as the newsletter, and Slack are good places to get this information.

With that Jeff closed the meeting for April, with the announcement of next month's presentation by Jeff Kanipe on Unusual Galaxies. The minutes are submitted for any corrections, updates, or additions. Please send those in a reply to the minutes thread on Slack. - *Mike Borchert, NCSF Secretary*

Public viewing schedule

Saturday, May 7, 8-11 pm
 Pike Lake Unit - Kettle Moraine State Forest

Friday and Saturday May 20 and 21 8-11 pm
 Harrington Beach State Park
 Jim and Gwen Plunkett Observatory

Saturday, June 4, 8-11 pm
 Pike Lake Unit - Kettle Moraine State Forest

Star Parties in 2022

June 23-26
Wisconsin Observers Weekend 2022
 Hartman Creek State Park, Waupaca
 Hosted by the [Northeast Wisconsin Stargazers](#) (NEWSTAR)
 More info and registration at [this link](#).

July 24-29
Nebraska Star Party 2022
 Merritt Reservoir Snake Campground
 Near Valentine, Nebraska
 More info and registration:
<https://www.nebraskastarparty.org/>.

August 26-28
Northwoods Starfest 2022
 Hobbs Observatory in at Beaver Creek Reserve in Fall Creek, WI
 Hosted by the [Chippewa Valley Astronomical Society](#)
 More info and registration at [this link](#).



Rover's Backshell From the Air

This image of [Perseverance's backshell](#) sitting upright on the surface of Jezero Crater was taken from an altitude of 26 feet by NASA's Ingenuity Mars Helicopter during its 26th flight on April 19. Engineers working on the Mars Sample Return program requested images from an aerial perspective because they may provide insight into the components' performance during the rover's entry, descent, and landing on Feb. 18, 2021. - Caption and photo from NASA/JPL-Caltech

Flower Moon Eclipse on Sunday, May 15

A [total lunar eclipse](#), dubbed the Flower Moon Eclipse, will be visible from North America and much of the western hemisphere on Sunday night May 15 through early Monday.

From southeastern Wisconsin, the moon on this night runs low in the south.

The partial eclipse begins at 9:28 pm with the moon just 12 degrees above the horizon.

Totality starts at 10:29 pm and mid-eclipse is at 11:12 with the moon just 24 degrees high in the sky. The last dark bite of the moon disappears by 12:56 am Monday. Because the moon takes a course through the earth's shadow a only a bit south of the centerline, it could appear darker than a typical eclipse, with the brightest areas on the moon's southern portion.



The eclipsed moon as it appeared from the Jim and Gwen Plunkett Observatory on January 20, 2019. The photo was taken through the club's 5-inch refractor. Background stars are visible in this five-second exposure. - Ernie Mastroianni photo

Astronomy and spaceflight links

Any comprehensive list of online astronomy links could fill dozens of pages, and as such, this list is selective and is subject to change. All underlined websites are actively linked. Please email me with any more suggestions that you feel would be useful to NCSF members, and let me know if any links are no longer working. - [Ernie Mastroianni](#), editor

Astronomy clubs, newsletters and websites

NCSF: <https://ncsf.info>
 Astronomical League: <https://www.astroleague.org/>
The Reflector magazine: <https://www.astroleague.org/reflector>
 Milwaukee Astronomical Society:
<http://milwaukeeastro.org/index.asp>
 North Central region of the AL: <https://ncral.wordpress.com/>
 NCRAL newsletter archive:
<https://ncral.wordpress.com/newsletter-archive/>
 US list of astronomy clubs:
<https://www.astroleague.org/astronomy-clubs-usa-state>

Astronomy gear, vendors and online sellers

<https://www.bhphotovideo.com/>
<https://www.highpointscientific.com/>
<https://optcorp.com>
<https://www.telescope.com/>

Astrophotography

Astrobin (a paid site for astrophotography uploads):
<https://welcome.astrobin.com/>
 Rogelio Bernal Andreo <http://www.deepskycolors.com>
 Chad Andrist <https://www.astrobin.com/users/SparkyHT/>
 Jim DeLillo <https://www.astrobin.com/users/jimdelillo/>
 Harrington Beach Imagers Group (Ernie Mastroianni and Tom Schmidt-kunz)
https://www.astrobin.com/users/Harrington_Beach_Imagers_Group/
 Trevor Jones <https://astrobackyard.com/>
 Rick Kazmierski <http://skyhawkobservatory.com>
 Jerry Lodriguss <http://www.astropix.com/index.html>
 N.I.N.A astrophotography suite:
<https://nighttime-imaging.eu/download/>
 Gabe Shaughnessy: <https://www.astrobin.com/users/AstroGabe/>
 Babak Tafreshi <https://babaktafreshi.com/>

Classifieds

<https://astromart.com/>
<https://www.cloudynights.com/>

Clear sky forecasts

Astrospheric <https://www.astrospheric.com/>
 Clear Dark Sky <https://www.cleardarksky.com/csk/>
 Clear Outside <https://clearoutside.com/forecast/50.7/-3.52>

Digital star atlases

Cartes du Ciel <https://www.ap-i.net/skychart/en/start>
 Stellarium <https://stellarium.org/>
 Sky Safari <https://skysafariastromy.com/>

Magazines and online astronomy news

Sky & Telescope <https://skyandtelescope.org/>
Astronomy <https://astronomy.com/>
Astronomy Now <https://astronomynow.com/>
 Skynews <https://skynews.ca/>
The Reflector <https://www.astroleague.org/reflector>
Sky at Night <https://www.skyatnightmagazine.com/>
 Astronomy Picture of the Day
<https://apod.nasa.gov/apod/astropix.html>



NASA's Artemis I rocket and Orion capsule are in position for launch pad tests at Cape Canaveral on April 21. This photo can be found on the [NASA HQ PHOTO Flickr page](#).

NASA images and missions

James Webb telescope https://www.nasa.gov/mission_pages/webb/main/index.html
 Hubble telescope <https://hubblesite.org/>
 NASA JPL Curiosity <https://www.jpl.nasa.gov/missions/mars-science-laboratory-curiosity-rover-msl>
 NASA JPL Juno at Jupiter <https://www.jpl.nasa.gov/missions/juno>
 NASA JPL Mars 2020 <https://www.jpl.nasa.gov/missions/mars-2020-perseverance-rover>
 NASA Johnson Space Center on Flickr
<https://www.flickr.com/photos/nasa2explore/>
 NASA Images
<https://www.nasa.gov/multimedia/imagegallery/index.html>
<https://images.nasa.gov/>
 NASA video on YouTube
https://www.youtube.com/channel/UC_aP7p621ATY_yAa8jMqUVA
 NASA International Space Station
https://www.nasa.gov/mission_pages/station/main/index.html
 NASA Kennedy on Flickr
<https://www.flickr.com/photos/nasakennedy/>
 NASA Project Apollo Hasselblad scans:
<https://www.flickr.com/photos/projectapolloarchive/albums>

YouTube Astronomy and Space Exploration

Featuring videos on popular Messier objects
<https://www.youtube.com/user/deepskyyideos>
 Ed Ting's telescope reviews and more
<https://www.youtube.com/user/edting>
 Nebula Photos: astrophotography tips

This [Lowell Observatory](https://lowell.edu/discover/telescopes-exhibits/godo/) image of the six-telescope suite on the plaza of the Giovale Open Deck Observatory is available as a background photo for virtual meetings. The Giovale is open to the public for observing. Find our more at this link: <https://lowell.edu/discover/telescopes-exhibits/godo/>



You Tube Astronomy, continued

Helena's Astrophotography Channel

This young woman from Scotland is a rising star, great videos!

<https://www.youtube.com/channel/UCG5Hd14VipcinOzhll5aXhQ>

Astrobackyard: One of the best astrophotography communicators

https://www.youtube.com/channel/UCn3npsPixgoi_xLdCg9J-LQ

Patriot Astro, all things astrophotography 3 million subscribers

<https://www.youtube.com/c/patrioastro/videos>

NASA: general YouTube Channel

<https://www.youtube.com/c/NASA>

NASA JPL

<https://www.youtube.com/c/NASAJPL>

NASA Johnson

<https://www.youtube.com/user/ReelNASA>

Astroimaging Channel

<https://www.youtube.com/channel/UCiR5AmROq4YcXF8hCxxZQ-g>

NASA Live space station views

<https://www.youtube.com/watch?v=86YLF0og4GM>

NASA spaceflight (not official NASA)

<https://www.youtube.com/channel/UCSUu1ih2RifWkKtDOJdsBA>

Observatories

UW Astronomy <http://www.astro.wisc.edu/>

Gemini <http://www.gemini.edu/>

WM Keck <http://www.keckobservatory.org/>

European Southern Observatory <https://www.eso.org/public/>

ESO images <https://www.eso.org/public/images/>

NOIRlab: formerly National Optical Astronomy Observatory

<https://noirlab.edu/public/images/>

National Radio Astronomy Observatory <https://public.nrao.edu/>

Lowell Observatory: <https://lowell.edu/>

Observing

Clear Skies Observing Guides <https://clearskies.eu/csog/>

Current comets: <http://www.aerith.net/comet/weekly/current.html>

Fred Espanek's eclipse guide: <http://mreclipse.com>

Upcoming and seasonal events: <https://in-the-sky.org/>

ISS transits: transit-finder.com

CCD calculator: <https://new-astronomy-cddcalc.software.informer.com/>

Tonight's Sky localized <https://telescopius.com/>

Jupiter's Great Red Spot transit

Outreach organizations

Planetary Society <https://www.planetary.org/>

Night Sky Network from JPL/NASA <https://nightsky.jpl.nasa.gov>

Citizen science participation <https://cosmoquest.org>

NASA Solar System Ambassadors <https://solarsystem.nasa.gov/solar-system-ambassadors/events/>

Sky calendars

<https://skyandtelescope.org/observing/sky-at-a-glance/>

<https://astronomy.com/observing>

Spaceflight news, blogs, commercial and foreign space agencies

Earth and Sky: <https://earthsky.org/>

NASA blogs: <https://blogs.nasa.gov>

NASA Spaceflight <https://www.nasaspaceflight.com/>

NASA Watch <http://www.nasawatch.com>

Spaceflight Now <https://spaceflightnow.com/>

Spaceflight Insider: <https://www.spaceflightinsider.com/>

Space News: <https://spacenews.com/>

Space Weather <https://spaceweather.com/>

Space Journal of Asgardia (a borderless nation of space enthusiasts) <https://room.eu.com/>

Universe Today <https://www.universetoday.com/>

Spaceflight: commercial and foreign space agencies

Blue Origin <https://www.blueorigin.com/>

Boeing <https://www.boeing.com/space/>

China National Space Agency : <http://www.cnsa.gov.cn/english/>

European Space Agency <http://www.esa.int/>

Lockheed Martin Space

<https://www.lockheedmartin.com/en-us/capabilities/space.html>

Roscosmos (Russian space agency): <http://en.roscosmos.ru/>

Sierra Nevada Corp. <https://www.sncorp.com/space-systems/>

SpaceX: <https://www.spacex.com/>

United Launch Alliance <https://www.ulalaunch.com/>

Virgin Galactic: <https://www.virgingalactic.com/>

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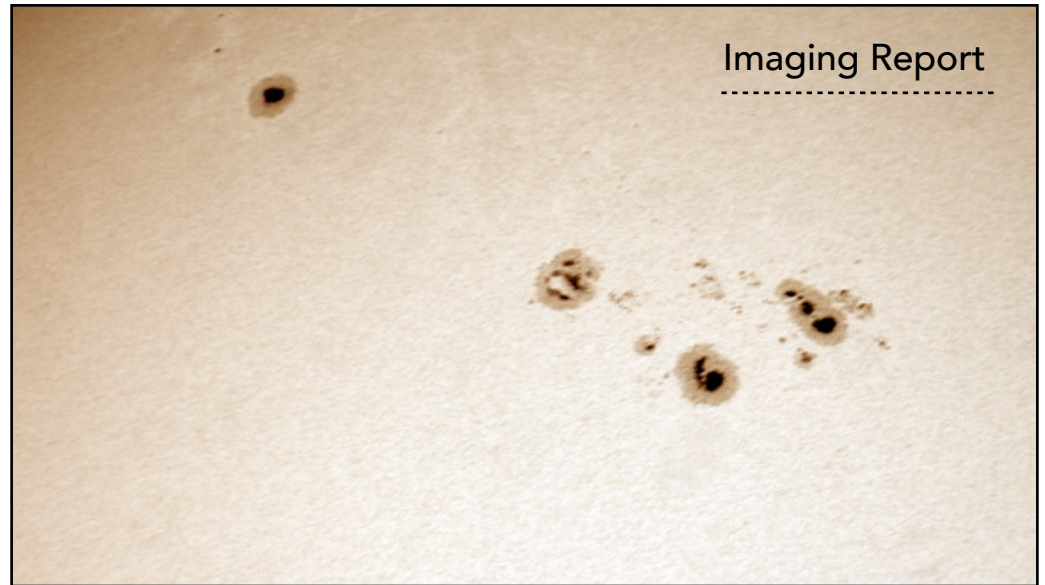
4892 Lois Lane
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(414) 732-7705
woelzd@charter.net



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



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

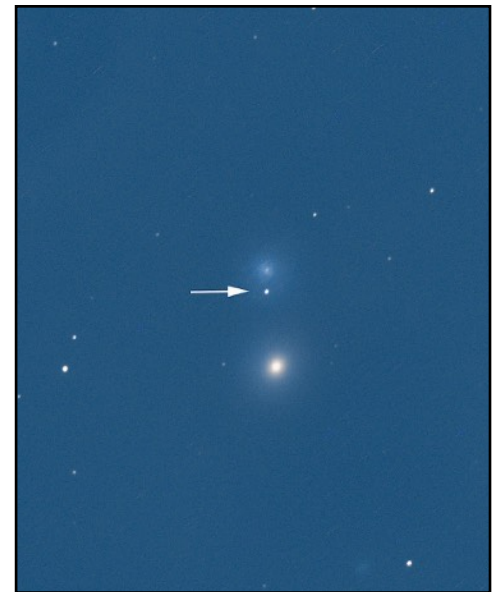


Imaging Report

Stellar Drama, Near and Far

Above: The Earth's sun, now in the upswing of its ongoing 11-year cycle of solar activity, displayed several large sunspot clusters on April 21. Sunspots and solar flares are expected to increase as the sun approaches peak activity in July 2025.

Right: Type 1a supernova [SN2022hrs](#) outshines its host galaxy, NGC 4647 in Virgo as seen on April 24. The stellar explosion was discovered on April 16 by amateur astronomer Koichi Itagaki of Japan. Below is the giant elliptical galaxy M60. Both photos were taken from my Whitefish Bay yard with a Questar 3.5 (sunspots) and a Celestron 9.25 (supernova).
- Ernie Mastroianni

**Spectrum newsletter**

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<https://ncsf.info>

NCSF On Facebook

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<https://www.facebook.com/groups/284397465372797/>

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<https://www.facebook.com/NCSFAstronomy/>

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