



Rochester Skies

A publication of the Rochester Astronomy Club



Rochester, Minnesota

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Serving the community since 1996

43.9°N 92.5°W Elev: 1316'

Mayo High School
11 November 2019

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Go to www.RochesterSkies.com for club information and activities.



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Events

Jan 31: 6:00 pm, Public Night
Sky Observing at Oxbow Park

Feb 11: 7:00 pm, Club Meeting
at RCTC Room EA121

Feb 28: 6:30 pm, Public Night
Sky Observing at Oxbow Park



Happy New Year!

The Most Wonderful Time of the Year

Randy Hemann

The title of this article may disagree with us living in the northern latitudes for the next few months, but time, like almost anything else, is perceived relative to the beholder. As we wrap up the year 2019 and enter 2020, it's a good time to be reflective about time. Although the 3 months of winter may seem to drag on longer than the swift months of summer, the exact same interval elapses.

I'm just finishing a book by Jim Holt regarding conversations between two giants of scientific thought, Albert Einstein and Kurt Gödel, the latter less known but considered to be "the greatest logician since Aristotle". Ten years after Einstein arrived at Princeton, he acquired Gödel, a professor of mathematics, as a walking companion and the two would muse about the physical world, rationalizing the metaphysical concepts of space, time, mathematics, and quantum theory.

It was the notion of time that preoccupied Gödel the most during these walks, and of course Einstein decades before had gained his expertise by turning the world upside down with his theory of time, or more accurately space-time, which ties the two concepts inextricably together. As the book states, Gödel pondered how "such a mysterious and seemingly self-contradictory thing form the basis of the world's and our own existence"? Indeed!

Why can't we explain time in more simpler terms like Isaac Newton who began his Principia asserting "the flow of absolute time is not liable to any change". Done! However, this was not to be, since experiment after experiment for the past 100 plus years never fail to prove Einstein's theory that time is perceived differently by different observers in different locations or at different speeds.

Or that a simultaneous event is nothing more than what is recorded by the observer. What is now for you is not what is now for someone living in the Andromeda galaxy.

Anyway, it was fascinating for me to refresh my readings on relativity theory. Although our experience of time is not exactly related to the concept of time, for me it still feels it takes longer to shovel 3 inches of snow than cutting 3 inches of grass at my home, although I do both in roughly the same time. Be that as it may, my hope is that all of us have plenty of time through the holidays and new year to enjoy our family and friends.



Thanks, Kirk Severson, for your years as RAC's Vice President.

John Attewell will be replacing Kirk.





Public Observing by Josef Chlachula

Moon at ZooDazzle

Friday, December 6, was RAC's Public Sky Observing night. The event took place at Oxbow Park's *ZooDazzle*, hosted by a non-profit organization the *Friends of Oxbow Park*, a fundraiser for Zollman Zoo. This annual Christmas event is designed to get families out to the zoo in the evening to see about 200,000 lights and Santa in his very own Ice Igloo. Friday's visitors got an extra bonus of enjoying the night sky through a telescope.



Unfortunately, the dark sky transformed into a thin layer of stratus clouds so the Moon, clearly visible through the thin layer, became the main observable object. Many visitors, including small children, enjoyed a nice view through small telescopes of the RAC members. About 8 pm the stratus clouds got thicker and eventually blocked out the Moon.

Mercury transit observed

November 11, 2019, the innermost planet Mercury transit the Sun as many club member prepared for this rare event at Mayo High School. They were hoping the weather would allow morning arriving students to observe the dark silhouette of Mercury against the Sun. The event started at 6:35 am and would end at 12:05 pm. Observers experienced all kind of weather that morning (see heading image above), but was able to witness a brief moment of clear sky making it possible to see Mercury against the solar disc.



Then it snowed, again.

Next transit: **November 13, 2032.**



NCRAL SEASONAL MESSIER MARATHON OBSERVING PROGRAM

(Originally published by Carl Wenning in *Northern Lights*, Volume 4, No. 2, page 17)

NCRAL's Seasonal Messier Marathon observations do NOT qualify observers for the Astronomical League's Messier Observing program; the two programs are unrelated and have different observing requirements. The main requirement of the NCRAL program is to quickly observe and check off items from a seasonal list of Messier objects, completing all observations during a single night. There are many other differences as well.

NCRAL recognition will be a 3/4-inch colored enameled star pin and a printed certificate. There is no direct cost to the membership for either; the cost of the program (pins, certificates, mailers, postage) will be borne by the Region as a benefit of affiliation. An award recipient therefore must be either a member of an NCRAL affiliated club or an AL member-at-large living within the boundaries of NCRAL.



TELESCOPIC OBSERVING PROGRAM:

Naturally dispersed, the highest concentration of Messier objects is located in the spring sky due to the abundance of galaxies in the Virgo-Coma region. The lowest concentration just happens to be in the autumn sky. As a result, a certain amount of liberty has been taken to roughly equalize the number of celestial objects to observe each season into four groups of 27 or 28 objects.

Autumn:

M55, M69, M70, M75, M11, M26, M56, M57, M71, M27, M29, M39, M2, M72, M73, M15, M30, M52, M103, M31, M32, M110, M33, M74, M77, M34, and M76. (27 objects)

Spring:

M95, M96, M105, M53, M64, M85, M88, M91, M98, M99, M100, M49, M58, M59, M60, M61, M84, M86, M87, M89, M90, M104, M3, M51, M63, M94, M106, and M68 (28 objects)

Winter:

M1, M45, M36, M37, M38, M42, M43, M78, M79, M35, M41, M50, M46, M47, M93, M48, M44, M67, M40, M81, M82, M97, M101, M108, M109, M65, M66. (27 objects)

Summer:

M83, M102 (NGC 5907?), M5, M13, M92, M9, M10, M12, M14, M19, M62, M107, M4, M6, M7, M80, M16, M8, M17, M18, M20, M21, M22, M23, M24, M25, M28, and M54. (28 objects)

Please note that there is no observing guide for this program.

RULES:

1. All required observations for a given season must be completed *during a single dusk-to-dawn night*; no object substitutions or time extensions are permitted. The only acceptable observations are those made on or after September 23, 2019 – the official start date of this NCRAL observing program.
2. Observations for a particular season must be completed during that season – from equinox to solstice or vice versa.

(continued next page)



(continuation of MESSIER PROGRAM)

3. Observers must find each object themselves and observe it using a telescope (not binoculars); merely viewing an object through your or someone else's telescope after they find the object does not qualify as an observation.
4. Assistive devices are permitted (e.g., setting circles, goto telescopes, etc.) to find objects. No distinction will be made on the observing program certificate.
5. Observer name, NCRAL affiliation (give club name or indicate AL membership-at-large), date(s) of observations, location, type and size of telescope(s) used, eyepiece(s) used, magnification(s) used, field(s) of view of eyepiece(s) used, seeing, transparency, limiting magnitude, and moon phase must be recorded. A summary statement is sufficient for all observations unless there are significant changes during the course of the night's observing run.
6. For individual observations, provide a record consisting of sequence number (1, 2, 3, etc.), Messier number, common name of object (if applicable), type of object (**OCI** – open cluster, **GCI** – globular cluster, **PIN** – planetary nebula, **SnR** – supernova remnant, **BrN** – bright nebula, **Gal** – galaxy, **Dbl** – double star, etc.), constellation, and time of observation.
7. Observational records of affiliate members must be confirmed by and submitted through the affiliated club's ALCor. In the event that the ALCor has made the observations, then any affiliate officer may confirm and forward the observations. Members-at-large may send in their observations without confirmation.
8. Records must include the name, email, and mailing address of observer and/or ALCor for sending the certificate and pin.

AUTUMN 2020 SEASONAL MESSIER MARATHON

Observer: *Member Name*

NCRAL Affiliation: *RAC*

Date(s) of Observation: *Sept 18-19, 2020*

Location: *Eagle Bluff, Lanesboro, MN*

Telescope(s) used: *Meade 2080 non-goto*

Eyepiece(s) used: *28mm Plössl*

Magnification(s) used: *100x*

Field(s) of view: *0.65 degrees*

Moon phase: *new*

Seeing: *3/5*

Transparency: *4/5*

Sequence	Messier No.	Object Type	Common Name	Constellation	Time Observed
1	55	GCI	none	Sagittarius	8:22 PM
2	69	GCI	none	Sagittarius	8:30 PM
3	70	GCL	none	Sagittarius	8:37 PM
4	57	PIN	Ring Nebula	Lyra	8:43 PM
5	11	OCI	Wild Duck	Scutum	8:50 PM
6	31	Gal	Andromeda Galaxy	Andromeda	9:02 PM
7	27	PIN	Dumbbell Nebula		
8	26				



2020 ALCON

The Albuquerque Astronomical Society (TAAS)

Overall Schedule:

- 15 July 2020 – AL Council Meeting
- 16-18 July 2020 – 2020 ALCON Conference Days
- 19 July 2020 – Very Large Array (VLA) Tour
- Location: Embassy Suites Hotel
- All rooms are two-room suites
- Lodging Rate: \$129/night (Single or Double)
- Complimentary Wi-Fi
- Complimentary cook to order breakfast
- Complimentary evening reception
- 1000 Woodward Place Ne, Albuquerque, NM 87102



The Albuquerque Astronomical Society (TAAS) is composed of over 410 members, making it one of the largest Astronomical Clubs in the United States. TAAS hosted the 1962 ALCON.

The TAAS Slogan is: **“Observe – Educate – Have Fun”**

TAAS has many active programs for Public Outreach and Education and operates the General Nathan Twining Observatory (GNTTO):

- 4-acre dark sky site located 45 miles south of Albuquerque
- Main & Imaging Domes
- Cafe and Meeting/Bunking buildings
- 22 Observing Pads
- The Society has a large loaner scope program with over two dozen scopes available to members.



Website: www.taas.org

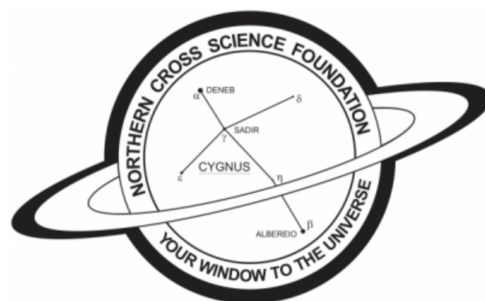


The NCRAL 2020 Convention will be hosted by the Northern Cross Science Foundation and held at Port Washington, WI, May 1-2, 2020.

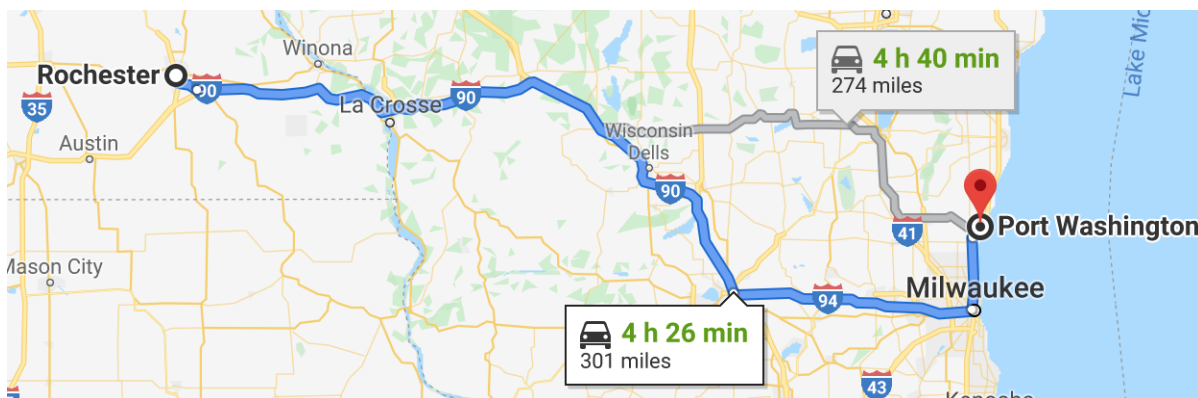
This year's theme is *Vision 2020* which, in this context, suggests a clear view of amateur and professional astronomy. To that end, an exciting list of confirmed speakers:



- **Dr. William Dirienzo**, Assistant Professor of Physics and Astronomy at University of Wisconsin-Sheboygan
- **Pranvera Hyseni**, founder of Astronomy Outreach of Kosovo. (**Editor's note:** Ms Hyseni told her story at ALCon 2019 and is incredible how she captivated all of Kosovo with one small telescope in a small community.)
- **Kate Meredith**, Founder & Director of Education 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" (**Editor's note:** Another noted speaker from the ALCon 2019 meeting.)
- **Dr. Angela Van Sistine**, Research Assistant at University of Wisconsin-Milwaukee: "Astrobiology: Life Beyond Earth"
- **Brandon Hamil**, Minnesota Astronomical Society: "The Traveling Astronomer"
- The Saturday night banquet speaker will be **Dr. Francis Halzen**, Gregory Breit Professor and Hildale Professor at the University of Wisconsin-Madison, and Principal Investigator of the IceCube Neutrino Observatory in Antarctica.



(continues next page)





(continuation of NCRAL 2020)

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 in 2008.

Check for updates on at ncsf.info



Officers

President: Randy Hemann

Vice President: John Attewell

Secretary: Brandon Wyman

Treasurer: Julie Gawarecki

Web Master: John Martin

ALCor:

Star Party Coord-Eagle Bluff Dean Johnson

Rochester's Outreach Coordinator: Josef Chlachula

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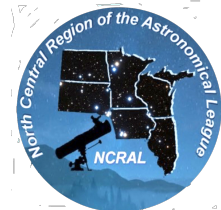
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[rocheasterastronomy](https://www.facebook.com/rocheasterastronomy)

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