



The Eyepiece

Neville Public Museum Astronomy Club

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September 2022

What's Up September 2022

September 23rd is the fall equinox, when the sun is directly overhead at the equator at noon and fall begins. For those of us who live north of the equator, it is the day when nights become longer than days. For the next three months the hours of night will increase each day until we reach the Winter Solstice on December 21st. On that night we will have over 15 hours between sun set and sun rise. Who wants to pull an all-nighter?

On September 26th Jupiter will be at opposition. At opposition, the Earth will make its closest approach to Jupiter for this orbit about the sun. This year the distance between the Earth and Jupiter will be 3.953 AU or 367,454,305 miles, the shortest opposition distance for the past 70 years. At opposition, Jupiter will have its greatest magnitude, approximately -2.94, and angular size, approximately 48.8". Don't be too concerned if you do not get a chance to observe Jupiter during opposition as the Earth-Jupiter distance only changes by about 3.3% over the month before and after opposition. Over this period of time the altitude of Jupiter when it is being observed is more important than the distance, as the thickness of the atmosphere that is acting to distort your view is smaller the higher Jupiter is in the sky.

While a stunning Jupiter is hugging the eastern horizon at nightfall early in the month, the red planet Mars and the Pleiades rise together after midnight only about 9° apart. As the month progresses these two celebrities of the night sky drift apart and the Moon comes to play. On the 16th Mars and the Pleiades will be about 16° apart and the first quarter Moon will lie directly between them. This triplet of celestial luminaries should be able to be captured with a 50mm lens. On the next night the Moon and Mars will rise together at approximately 11PM and spend the night about 4° apart. Using a 125mm lens should frame this pair nicely.

If you want to go galaxy hunting this month you should do it early in the month while the Moon is setting before midnight or later in the month when the Moon does not rise until after midnight. The reason for this suggestion is that while all of our major fall galaxies have reasonable magnitudes they all have low surface brightness. The magnitude of diffuse objects like galaxies and nebulae is related to the total light emitted by the object while the surface brightness is related to the average light emitted per unit angular area of the object. Surface brightness is often reported in the same units as sky-glow making the two measures useful for selecting which objects you can expect to see on a given night. Typically, it is difficult to see objects that have a surface brightness that is less than the sky-glow. The greater the difference the more difficult the observation. Light pollution free dark skies have a sky-glow of around 22 mag/arcsec² while urban skies may have a sky-glow closer to 17 mag/arcsec². Adding in Moon glow can change the total sky-glow significantly. M31 with a magnitude of 3.44 has a surface brightness of 22.24 mag/arcsec² with a core that is significantly brighter. Under dark sky conditions you can see the core of the galaxy with the unaided eye. The small galaxy M81 has a magnitude of 6.9 and a surface brightness of 22.02 mag/arcsec². It is not usually visible with the unaided eye even on very dark sky conditions but is a popular target for viewing with binoculars or small telescopes due to its compact structure. M33 has a magnitude of 5.72 and a surface brightness of 22.99 mag/arcsec². It is visible under very dark sky conditions but can be difficult to see even with binoculars or small telescopes in the presence of light pollution due to its low surface brightness and diffuse structure.

Have a great month and enjoy the night skies.

September Meeting

When: Wed. Sep.
7th. 6:30 PM

Speaker: Jerry
Schaefer

Location:
Neville Public
Museum

Sept. 17th

Public
Observing

Brillion
Nature
Center

Sept. 23 - 24

Parmentier
Observing
Weekend

Call for Art Big Things in Far Away Places How Astronomers See the Universe

Ladybug Glass Studio & Gallery, 219 Steele St., Algoma, WI will host an exhibit of the artwork of members of the Neville Public Museum Astronomical Society and the Door Peninsula Astronomical Society during the month of October 2022 at the gallery in Algoma Wisconsin.

Members are encouraged to submit any kind of astronomical artwork that they would like to share with the public. Two dimensional, photographs, paintings and sketches and 3-D works are all welcome. Works can be for display only or offered for sale.



There is no charge to display your work. A 25% commission will be collected from the sale price for any works sold during the show.

All submissions should be display ready, ie, framed with hanging hardware attached. A brief description of the subject of the work should be provided with any additional information that the artist wishes to share with the public such as the equipment used in producing the work. If the work is to be offered for sale, the sale prices should be provided.

This year photographs can also be submitted digitally. If accepted for the show we will have the work printed on aluminum as a 11x14 print unless we are requested otherwise. The work will be offered for sale. If the work is sold the person submitting the work will receive 25% of the sale price. If the work is not sold during the October show the person submitting the work may purchase the print from the gallery at our cost for printing. Works that are not sold or purchased by the submitter will be added to the Gallery's collection of images that are offered for sale in the Gallery. The submitter will continue to receive 25% of any future sale price and will hold the copy right for the image. Works submitted digitally should be sent as TIFF images and cropped to the desired print aspect ratio by September 15th to LYONJ@UWGB.EDU.

As in all art shows, space is limited. The gallery reserves the right to limit the number of items displayed. Every effort will be made to display works from all members who submit works for the show.

To help us plan, please send the following to LYONJ@UWGB.EDU before Sept. 15.

- 1) description of work with submitters name
- 2) size of work
- 3) medium (photography, drawing, sculpture, etc)

While every precaution will be taken to avoid damage or loss, Ladybug Glass Studio & Gallery assumes no liability for works while on display.

The gallery will accept works for the show in September. Contact either Kimberly Lyon at 920-591-2883 or John Lyon at 920-366-5566 with questions or to arrange for the submission of your work.

New Member Welcome Mat

Please join me in welcoming new member Michelle Rae. Below is the information that Michelle has contributed as her introduction to the club. Please make her welcome at future club activities.

How did you find out about the NPMAS?

I discovered the organization through the Neville Museum website.

How long have you been interested in Astronomy?

I've been mesmerized by space since childhood. However, about 5 years ago I took my first Astronomy class which sparked a greater curiosity.

Do you have any particular interests like cosmology, galaxies, planets, etc.?

I'm interested in every aspect, but Astronomical History and Cosmology are my favorite. The relationship between dark matter and the evolution of galaxies is particularly fascinating. As far as objects go, active galactic nuclei get my vote.

Can you tell us a little about yourself, your work and other interests?

After graduating from De Pere High School in 2009, I moved to the Northwoods. There, I spent most of my time hiking and fishing. In 2017 I relocated to Houghton, Michigan to pursue a degree in Physics. Nowadays (when I'm not nerding out about the stars) I can be found rollerskating at the skatepark. Other interests include fiber arts, Muay Thai and traveling.

What do you expect to get out of the club?

Experience and knowledge! Most of my experiences with Astronomy are naked eye observations and theoretical research. I'm excited to get hands on, making observations and operating telescopes. I can't wait to get started on some Astronomical Society Observing programs.

2022 Star Parties

For a complete listing of the 2022 Star Parties go to: (www.go-astronomy.com/star-parties.htm)

January 31- February 6 Winter Star Party, Big Pine Key, Florida Keys Hosted by Southern Cross Astronomical Society.
www.scas.org/winter-star-party/registration.cfm

April 24 - May 1 Texas Star Party, Fort Davis, Texas. texasstarparty.org

June 23-26 Wisconsin Observing Weekend, Waupaca

July 24-29 Nebraska Star Party, Valentine NE <http://www.nebraskastarparty.org>

July 27-31 Pike River Starfest, Amberg WI

Aug. 26-28 Northwoods Starfest, Fall Creek, WI. Hosted by Chippewa Valley Astronomical Society,
www.cvastr.org/northwoods-starfest/

Aug. 31-Sept. 5 Northern Nights Starfest, Palisade MN Hosted by Minnesota Astronomical Society,

Sept. 23- Oct. 1 Okie-Tex Star Party. Camp Billy Joe. Hosted by the Oklahoma City Astronomy Club, www.okie-tex.com/index.php

Sky Events

August Moon Phases

First Quarter	Sept. 3
Full Moon, Super Moon	Sept. 10
Third Quarter	Sept. 17
New Moon	Sept. 25

August Meteor Showers

Name	Peak Dates	# per hour
Draconides	Oct. 8-9	10
Orionids	Oct. 21-22	20

2022 Planet Opposition Dates

Mars	Dec. 7
Jupiter	Sept. 26
Saturn	Aug. 14
Uranus	Nov. 9
Neptune	Sept. 16

Astro Twilight Times

Date	Ends	Begins
Sept. 1	21:11	4:30
Sept. 15	20:41	4:51
Sept. 31	20:10	5:11

Rise Time / Meridian Time / Set Time for the Brighter Planets

Planet	8/1	8/15	8/31
Venus	04:59/11:58/18:56	---	---
Mars	23:04/06:28/13:51	22:33/06:02/13:31	21:52/05:27/13:01
Jupiter	20:28/02:36/08:43	19:30/01:35/07:40	18:23/00:24/06:26
Saturn	18:37/23:38/04:40	17:40/22:40/03:40	16:35/21:34/02:33

Source: in-the-sky.org



M81 and M82



M33



M31

2022 Schedule of Events for NPMAS

JANUARY

- 12 Holiday Party
- 14-16 Camp U-Na-Li-Ya Weekend

FEBRUARY

- 2 Monthly Meeting-John Briggs, Antarctica Expedition

MARCH

- 2 Monthly Meeting-Barlow Planetarium
- 19 Sheboygan Swap-n-sell, Aviation Heritage Center, Sheboygan Airport

APRIL

- 6 Monthly Meeting-Dick Francini
- 9 Public Observing, Bay Beach Wildlife Sanctuary
- 22-23 Parmentier Observing Weekend
- 30 Messier Marathon

MAY

- 4 Monthly Meeting-Tom Spirock, Photographing the Planets
- 13-14 NCRAL Convention Vision 2022 Port Washington
- 15 Total Lunar Eclipse
- 27-28 Parmentier Observing Weekend

JUNE

- 1 Monthly Meeting-Amy Hannon Drew
- 3-4 Parmentier Observing Weekend
- 4 Club Picnic
- 24-25 Parmentier Observing Weekend

JULY

- 1-2 Parmentier Observing Weekend
- 6 Monthly Meeting-Brian Chopp
- 29-30 Parmentier Observing Weekend

AUGUST

- 3 Monthly Meeting-Duane Clausen
- 26-27 Parmentier Observing Weekend

SEPTEMBER

- 7 Monthly Meeting - Jerry Schaefer
- 17 Public Observing - Brillion Nature Center
- 23-24 Parmentier Observing Weekend

OCTOBER

- 1 Public Observing, Bay Beach Wildlife Sanctuary
- 5 Monthly Meeting-Gerry Kocken Part 1
- 21-22 Parmentier Observing Weekend

NOVEMBER

- 2 Monthly Meeting-Gerry Kocken Part 2
- 8 Total Lunar Eclipse

DECEMBER

- 7 Monthly Meeting-Year in Review

Club Monthly Meetings

The NPMAS monthly meetings are open to the public and are held at the Neville Public Museum on the first Wednesday of each month from 6:30 to 8:30 PM.

TELESCOPE WORKSHOP

Before each monthly meeting Gerry Kocken is offering to meet with club members who have questions about their telescopes or have telescopes that need adjustments or repairs. If you would like to meet with Gerry for this service he requests that you contact him prior to the meeting so that he knows what he needs to bring and to schedule his time. You can contact Gerry at gerryk@kockenwi.com

New Member Welcome

Evan Polkinghorne & Family

Michelle Kline



The Moon with Mars

CLUB PUBLIC OUTREACH

The education of the public about astronomy is one aspect of our mission. Our public viewing sessions are one way we achieve this goal. Another is by accommodating requests from organizations in the region for astronomy related speakers or demonstrations. Types of organizations that have made requests are schools, public libraries, and scout troops. The club is always looking for individuals who would like to contribute to these activities. Ways that individuals can contribute is by preparing or giving presentations, assisting at public viewing sessions or by answering questions from the public. If you are interested in contributing to the club's public outreach activities you can contact any of the board members or the Public Outreach Coordinator Robert Nelezen at robertn330@gmail.com.

Loaner Telescopes

NPMAS members are welcome to use, free of charge for a one month period, one of the six club telescopes. Please contact one of the board members to make arrangements. The six telescopes available are:

- 10 inch Dobsonian Telescope
- 60 mm Bushnell Voyager
- 12 inch Orion SkyQuest IntelliScope
- Meade ETX125 Cassegrain Telescope with AutoStar
- 4" Meade Schmidt Cassegrain
- 8" F10 Celestron Schmidt-Cassegrain

NPMAS OBSERVING SITES

Parmentier Observatory

Parmentier Observatory is home to a 30 inch classical Cassegrain telescope, the largest private observatory in Wisconsin. Members may view through the 30 inch or setup their own telescopes in the adjoining field.

Address:

N4175 Doell Road
Luxemburg, WI 54217
Observatory Representative
Mike Monfils – 920-435-7350

Club Library

NPMAS has a collection of astronomy related books and videos covering a wide variety of topics including observing, the solar system, stars and more. Items can be checked out at monthly club meetings or by contacting Tom Cashman at 920-432-2261

NPMAS BOARD

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Submissions can be emailed to LYONJ@UWGB.EDU or mailed to N6618 Hillside Rd. Casco, WI 54205

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