November - December 2022 Newsletter

MARTZ·KOHL OBSERVATORY

Marshal Martz Memorial Astronomical Association Inc.

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Lunar Eclipse on November 9, 2022

Images, taken through the **Takahashi Refractor telescope on the Kohl 20"**, shows the moon before the eclipse and at totality. The **Beaver Blood Moon** lunar eclipse started about 3 a.m. and was total at about 5:20 a.m. Why the "Beaver" Moon? Well, when we asked google, it said **"This is the time of year when beavers begin to take shelter in their lodges, having laid up sufficient stores of food for the long winter ahead."** In addition to the Beaver moon, other names for November's full moon include the Frost or Frosty Moon and the Snow Moon. This was the second lunar eclipse this year and the last until 2025. There were several visitors who braved the cold clear morning skies to observe the event at the **Martz-Kohl Observatory.**

Green Bank Telescope: Virtual Tour

Wednesday, November 16, 2022, at 7:30 p.m.

Sarah Olivera, from the **Green Bank Observatory** located in the Allegheny Mountains of West Virginia, will provide an introduction into the history of the observatory, the National Radio Quiet Zone, and relate the need for a very large dish radio telescope: The Green Bank Telescope. Learn about the design of the Green Bank Telescope, how it moves, how it collects data, and what makes it one of the world's premier radio telescopes. Sarah shares her belief, "the telescope itself serves as a testament to humans' natural and endearing curiosity; to put in so much time, effort, and teamwork, to create something to study the Universe that we inhabit is truly remarkable and should be celebrated and shared."

Sarah is a graduate of the University of Texas with a B.S. in Astronomy and a B.S. in Physics. She now works at the Green Bank Observatory in the Education and Public Outreach Division. As an undergraduate student, she helped to create animations of pulsating white dwarfs from K2 data, as well as developing educational materials for the Painter Hall Observatory. Sarah is passionate about sharing astronomy with audiences of all ages and backgrounds and is working to make STEM more approachable and inclusive for everyone.

The lecture is available online via Zoom. We encourage you to come to the observatory to view it on our high-resolution conference screen. Later, if the weather cooperates, we will offer tours and viewing opportunities. For more information go to: www.martzobservatory.org Admission is free, but donations are welcome.

The **Martz-Kohl Observatory Lecture Series** is ongoing. Speakers have included educators, NASA staff, professional astronomers, and observatory members. We now have over 25 lectures online, available to view on-demand. Many topics are available but some of our favorites include the birth and death of stars, blackholes, Mars rovers, space junk, astrophotography, and there are many more!

Check them out at: https://martzobservatory.org/observatory-lecture-series/

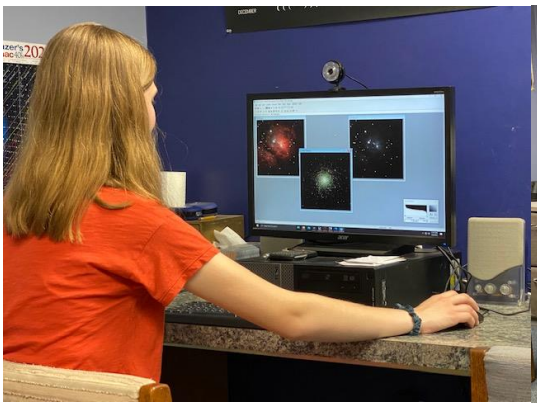
Cub Scout Pack 330 listening to a presentation on **Galaxies** given by board member Tom Traub.

Dave Wilkins, Astro-photographer and member of the Martz-Kohl Observatory, doing a presentation on **Astrophotography** in September.

President's Update

I hope this newsletter reaches you all in good health and spirits. I'd like to introduce myself to those of you who may not know me. My name is Corey Swanson and I am the newly-elected President of this great Association. I previously served as the Secretary. I'd like to thank Gary Nelson and Brian Ceci for their years of leadership as President and Vice-President. I know they will continue working for the good of the Association. I'd also like to announce our new Vice-President is Tom Traub, our Treasurer is John Anderson, and our new Assistant Treasurer is Josh Campbell. I look forward to working with all of you to continue the legacy created here at Martz-Kohl Observatory.

Since re-opening following the Covid-19 shutdown of the Martz-Kohl Observatory, a lot of hard work has been put into continuing the upgrades to the 24-inch telescope and the facility itself. Members have been hard at work doing things such as organizing the library, upgrading the security system, facility improvements and maintenance both indoors and outdoors, giving tours to individuals and large groups, and upgrading our technology to provide high quality Zoom presentations for our wonderful monthly Observatory Lecture Series. Work continues on the 24-inch telescope to bring robotic access to schools, universities, and to the membership while the 20-inch and 5-inch telescopes continue to provide awe-inspiring views of the heavens to all who look though them. A lot of good things are happening, and I encourage all members to come to Martz-Kohl Observatory and see what those things are for yourselves, to help out and get involved. I'll see you soon and clear skies!



Brian Ceci looking at the astro images that Kyra Bettwy took with the 24" telescope.

This summer, **Kyra Bettwy** did a three-week internship at the **Martz-Kohl Observatory**. Kyra is a high school senior interested in studying physics and astronomy in college. One of her first tasks was to develop an instruction manual detailing the proper operation of the robotically controlled 24-inch telescope system. The manual will be used to assist individuals – such as members and/or visiting students - who will be interested in accessing the telescope. Kyra also had the opportunity to take astro images of galaxies, nebule, and star clusters whenever the night skies were clear. She learned how to program the telescope to locate the target and set different exposure times. Kyra used the different filters and saturation levels that was available on the observatory's imaging software. The final images were layered compilations of numerous pictures taken through different filters. Some of her favorites included the Whirlpool Galaxy (M51) and the Pillars of Creation (M16). According to Kyra, the best part of the internship was participating in the educational outreach programs offered at the observatory as it was great to see how the observatory sparked an interest in science and astronomy in the students.

Astronomy Type Events in November & December

November 17-19 **Leonids Meteor Shower**. The Leonids will produce an average of up to 15 meteors per hour at peak. This shower is unique in that it's heaviest about every 33 years where hundreds of meteors per hour can be seen. The last peak occurred in 2001. The Leonids are produced by dust grains left behind by Comet Tempel-Tuttle, which was discovered in 1865. The best times for enhanced activity are at around 2 a.m. on the 18th, and especially 1 a.m. on the 19th with the possibility of up to 300 meteors per hour.

December 8 **Mars at Opposition.** The red planet will be at its closed approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. Look south and up towards the zenith about 11 p.m. to see red Mars close to the nearly full moon. It will be above the Orion constellation.

December 13-14 **Geminids Meteor Shower**. The Geminids are considered the best meteor shower. Up to 120 multicolored meteors per hour can occur. The shower is produced by debris left behind by asteroid, 3200 Phaethon, which was discovered in 1982. It peaks on the night of the 13th and morning of the 14th.

December 22 **Ursids Meteor Shower**. Up to 10 meteors per hour with no moon to interfere.

Calendar of Events

November 16 Zoom webinar with **Sarah Olivera**, ***Green Banks Telescope: A Virtual Tour***, at 7:30 p.m.

January 18 **Dr. Kevin Sato** via Zoom and on the big screen at the observatory at 7:30 p.m. Dr. Sato is the Program Scientist for Exploration at the NASA Ames Research Center.

January 21 **Doors Open Jamestown**, 10 a.m. to 4 p.m.

Beginning January 2023, the Board of Directors will meet on the 4th Wednesday of the month at 6:30 p.m. followed by the general meeting at 7:30 p.m. All are welcome to attend.

Did You Know…

Our Sun is one of over 100 billion stars in the Milky Way galaxy, and the Milky Way is one of over 100 million galaxies in the universe.

The planet Saturn would float on water – it's the only planet in our solar system that would.

The planet with the hottest surface temperature is not Mercury, but Venus, because of the Greenhouse Effect of its atmosphere.