MARTZ·KOHL OBSERVATORY
Marshal Martz Memorial Astronomical Association Inc.
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www.martzobservatory.org

A View from Russia

Gleb Dementev is a member who started using our equipment while he was a student at Jamestown Community College. While there, he started up an Astronomy Club on campus. Gleb has been doing remote observations with the 24-inch Martz Telescope. Gleb has returned home to St. Petersburg, Russia, and is currently attending ITMO University. Gleb’s current interest is doing a light curve for the variable star RZ Cassiopeia. This is a double star system consisting of a brighter white Sirius type star and a sub giant orange star. The stars revolve around each other with a period of 1.195 days and the main eclipse lasts for only 4.8 hours and dims the stars brightness by about 50 percent at maximum. The star system lies at a distance of 213 light years. Gleb is currently processing the data from our last eclipse run on the Martz 24" Telescope.

NASA Artemis: Return to the Moon for Science & Exploration

Wednesday, January 18, 2023, at 7:30 p.m.

Dr. Kevin Sato, Program Scientist, will discuss NASA's planning for the return of humans to the moon, the space flight vehicle platforms, and the biological and the physical sciences research that will be conducted on the moon. It has been over fifty years since humans traveled beyond low earth orbit and stepped foot on the moon. Now, with the flight of Artemis I, NASA has initiated humanities return to the moon. The exploration of the moon and its orbital environment will enable transformative scientific research that will advance our knowledge of how biological physiological systems respond, adapt, and function in the lunar gravity and deep space radiation. This knowledge will aid in understanding the different health hazards of human space flight and the potential of lunar agriculture.

Dr. Kevin Sato is the Program Scientist for Exploration in NASA Headquarters Biological and Physical Sciences Division (BPS), working across the BPS Science Programs, NASA Science Mission Directorate's (SMD) Divisions, NASA Directorates, and International Space Agencies to advance fundamental scientific research. He has served NASA's Space Biology Program and its research community for over 22 years. As the Program Scientist for Exploration, he works within NASA to define and develop scientific objectives and strategic and tactical plans to conduct science on the Artemis missions and future missions to Mars. **Dr. Sato** states that "the low Earth orbit platforms of the space shuttle and ISS enabled new scientific discoveries and ability to address long standing theories and hypotheses that were not possible to study on Earth. **Dr. Sato** earned his B.S. degree in Microbiology from UCLA and his Ph.D. in Biology from U.C., Irvine.

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 many more!

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

Students from Brocton Central School visiting the Martz-Kohl Observatory

President's Update

Happy New Year! I would like to take this opportunity to thank all of the members of the Marshal Martz Memorial Astronomical Association, Inc. for your support in 2022. Your memberships, friendships, donations, and most importantly, the time you volunteer to make the Martz-Kohl Observatory a true gem in Chautauqua County. I would also like to thank the local foundations, organizations, businesses, and private donors that continue to financially support our mission to "inform, educate and inspire the general public and support teaching in the sciences of astronomy and physics." Without all of you, we would not be where we are today.

The year 2022 saw some significant improvements at the Martz-Kohl Observatory, some of which will lead to some exciting projects down the road. We continue to improve the look of the observatory with some fresh paint, new doors, new displays, re-organization of the library and storeroom, and streamlining of computer equipment. Upgrades to the security system have been completed to help us better protect the equipment we now have. Recently, completed drainage work around the facility will help to alleviate the heaving of the ground that has been an issue for several years now. A newly added All-Sky Camera has been providing some spectacular views of the night sky as well as some fantastic time lapse videos. In the planetarium room, an Amateur Radio station is in the process of being set up. Currently, a dual band VHF/UHF radio and antenna and been installed with an HF (High Frequency) radio and antenna. Some members are licensed Amateur Radio (or HAM) operators so these radios can be used to talk to people through local repeaters or around the world. Future plans include some Radio Astronomy equipment to map neutral hydrogen in the Milky Way galaxy and to detect radio signals from Jupiter, the Sun, and the stars. We will also have the ability to receive and decode the signals from the NOAA weather satellites, talk to the astronauts on the International Space Station and hopefully, even other Amateur Radio operators around the world via Earth-Moon-Earth signal bounce!

We continue the complex work of making the 24-inch Martz telescope remotely and robotically accessible to schools, universities, and our members. We are currently working with college students doing research on transiting exoplanets. They are requesting the observations be done and we are doing those observations and providing the data to them. In the near future, they could be trained to remotely request these types of observations and robotically control the telescope to perform them. The views through the 20-inch Kohl scope and 5-inch Takahashi telescopes continue to amaze and inspire all who look through them.

We also continue to provide an excellent speaker series every month. The Program committee has been hard at work securing speakers from NASA working on the current Artemis mission, the Green Bank Radio Observatory and even our own members to provide informative and inspirational lectures to all who join in. Many of the speakers arrive via ZOOM, but we do have some visit the observatory to present to a live audience. Stay tuned for our 2023 lineup!

All the while, we continue to provide a number of tours and programs to local Cub Scouts, Girl Scouts, local school groups and residents, and have several groups interested and scheduled for 2023! We are in the planning stages for hosting a STEAM Camp in July 2023 in collaboration with Falconer Central School at the observatory.

Astronomy Type Events in January & February

January 22 **Conjunction of Venus and Saturn.** At about 5:45 p.m. in Frewsburg, NY, the Moon will be setting. Directly above the Moon, Saturn and Venus will be very close to each other. It will be easy to see with the naked eye and even more fun through binoculars and a telescope. This apparent near approach of the one celestial body to another is called an appulse.

February 1 Comet C/2022 E3 (ZTF) was recently discovered in March 2022. It should be brightest on February 1st and *MIGHT* be visible to the naked eye – but certainly with binoculars or a telescope. At 11:00 p.m. in the Frewsburg, NY area, look due North. About 1/3 of the way to the zenith you will find Polaris, the North Star. Look straight up from Polaris (about ½ way from the horizon to the zenith) to find the comet. Current brightness estimates range from magnitude 5.1 to 7.0. The letter "C" in the comet designation means that it is not periodic – i.e. it will only pass this way once.

Calendar of Events

January 18 Zoom webinar with Dr. Kevin Spato, ***NASA Artemis: Return to the Moon for Science & Exploration,*** at 7:30 p.m.

February 15 Zoom webinar with Dr. James Spann, Space Weather Lead, Heleophysics Division, NASA HQ from Washington, D.C.

March 15 Zoom webinar with Tim Horvath, ***Science on Artemis Missions***, at 7:30 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.

Board Members: Corey Swanson, **President**; Tom Traub, **Vice-President**; Walt Pickut, **Secretary**; John Anderson, **Treasurer**; Josh Campbell, **Assistant Treasurer**; Lawen Griffin, Jr.; Laurie Livingston; Gary Nelson; and Brian Ceci.