Marshal Martz Memorial Astronomical Association, Inc.

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Frewsburg, NY 14738
www.martobservatory.org

November - December 2021 Newsletter

Annual Meeting

The annual meeting of the Marshal Martz Memorial Astronomical Association, Inc. was held on October 13th. President Nelson shared highlights from 2020-21. The Martz-Kohl Observatory participated in the Doors Open Jamestown, held virtually in February. The Martz-Kohl Observatory video was one of the top three videos viewed. We participated in GiveBig CHQ in June, sponsored by the Chautauqua Region Community Foundation and the Northern Community Foundation. The amount raised was $1,055 with 17 donors. Thank you to those that donated. The handicapped restroom was completed. Even though the observatory was closed during last year and part of this year, volunteers were busy doing work inside and outside the observatory. Programming continued via Zoom webinars during this time. The program committee, chaired by Walter Pickut, put together an outstanding array of speakers for 2020-21. You can view videos of the presentations on our website.

Other business included the approval of the 2021-22 budget and the election of members to the board of directors. Elected for a 2-year term: Laurie Livingston, Jon Porier, Josh Campbell and Lawen Griffith shown standing left to right.

Board meetings are held on the 4th Wednesday of the month.

Officers

President:
Gary Nelson
Vice President:
Brian Ceci
Secretary:
Corey Swanson
Treasurer:
John Anderson

Board members

Walter Pickut
Tom Traub
Richard Carlson
Laurie Livingston
Jon Porier
Lawen Griffin
Josh Campbell

Editor Newsletter
Richard Carlson

Proof Reader
Randy Brown

September's Guest Speaker

We were privileged once again to have Penn State Behrend College professor **Dr. Darren Williams** as our speaker in September. His program was entitled ***"Probing the Earth from Astronomical Distances."*** It asked "what would the earth look like to someone light years away? Would it be a featureless blue dot, or could we possibly see oceans, snow and ice, forests or even cities through the clouds?" The answer to these questions intrigues astronomers as they collect information from exoplanets that are being studied today. It is hopeful that the new telescopes under construction and those of the future will be able to reveal their sizes, rotation and atmospheric compositions to give us a better understanding of other worlds. The program was accompanied by numerous graphics.

Dr. Williams arrived at the observatory with students from his class, who were most impressed with our facility and its telescopes. Professor Williams, as a teen, started his career as an astronomy hobbyist at the Martz Observatory. Today his current focus is on the final stages of planet formation, and designs for a new miniature space telescope (The Pale-Blue-Dot Telescope) to remotely observe terrestrial planets at sub-pixel resolution.

Special Astronomy Night at the Martz-Kohl Observatory

Dr. Marie Plumb, Dr. Lynn Cominsky, and President Gary Nelson.

It was our pleasure to welcome world-renowned astronomer and physicist, Dr. Lynn Cominsky on October 16. Dr. Cominsky presented an introduction to gravitational waves, black holes and the Laser Interferometer Gravitational-wave Observatory (LIGO). She discussed the gravitational wave detection results reported to date from LIGO and Virgo (another gravitational wave interferometer). On September 14, 2015, LIGO received the first confirmed gravitational wave signals. This event represents the coalescence of two distant black holes that were previously in mutual orbit. LIGO's exciting discovery provides direct evidence of what is arguably the last major unconfirmed prediction of Einstein's General Theory of Relativity. Dr. Lynn Cominsky grew up in the snows of Buffalo, New York, and attended college at Brandeis University, where she studied Chemistry and Physics. She then worked at the Harvard-Smithsonian Center for Astrophysics. When she found out that she could get paid for studying black holes, she went to graduate school in physics at MIT. After getting her PhD there in 1981, she moved to California. She has been on the faculty at Sonoma State University for over 35 years, and chaired the Department of Physics and Astronomy for 15 years. She is also the director and founder of SSU's EdEon STEM Learning Center, formerly known as the Education and Public Outreach group.

The second event of the evening took guests "to the Moon!" **Observe the Moon Night** is a worldwide public event that encourages observation, appreciation and understanding of our Moon and its connection to science, exploration, and human culture.

Educational Outreach

We should acknowledge the grandmothers who bring their grandchildren to the observatory to visit a place of learning they themselves wished they had known about when they were younger. Many times the children are too timid to talk, even though one would suspect they talk a lot about space and what they hear and see on television. The age range is between three and twelve years old. Let us not overlook the fact that very young minds can be interested in astronomy, whereas this curiosity escapes the attention of an adult.

A mother brought her three-year daughter to the observatory. The three-year old explained to one of our long standing members in unusually accurate detail how the craters were formed on the moon while most adults would be at a loss to do so. This young child explained in a small voice that the way craters were formed was as if you stretched a blanket out and threw stones at it.

Another never-forgotten memory was when a college professor grandmother brought her approximately 9-year old granddaughter to the observatory. The grandmother confessed that when the child was talking about astronomy, she had no idea what the child was talking about and the child was at a loss to talk to her friends about astronomical science either. As an educated woman, she imagined what better place to be, but to take her granddaughter to a local observatory. It was here that the granddaughter could channel her questions and to get the answers she was looking for. We recognize that many children are far more advanced than their adult family is aware of and the fact goes unnoticed.

Another example, perhaps one of the most stunning, was during one occasion, a couple from Pittsburgh brought their two boys, approximately 8 and 9 years old, to the observatory. Out-of-town visitations are not unusual. When the young children were brought under the dome to view the large 24-inch telescope and watched its motion, the 9-year old, upon learning the motion motors were stepper driven, went into dissertation to our electrical engineer, John Anderson, himself a Case Western Reserve University graduate, explaining how stepper motors functioned. All the while the children were explaining the motion controls of the telescope, the parents stood nearby not saying a word. It was later to be found they were both department heads at Carnegie Mellon University in Pittsburgh.

Not all children are exceptional, but all seem to be awestruck when coming upon something so unusual, that doesn't resemble a telescope as they imagined it, and it leaves them without words. The shock of seeing something described as a telescope for the first time, with a tangle of wires, hoses, counterweights and an impressive big brass-appearing gear has boggled even the minds of adults upon seeing the massive structure aimed heavenward.

Brownie troop 20137 visited the observatory in October. Do you have a group such as scouts, school classes or clubs? Check out the Martz-Kohl Observatory for guided tours or classes around Astronomy, Space and Physics. More info on our website:
https://martzobservatory.org/
Shown here is Board member Corey Swanson doing a presentation to the group.

Display Cases

Following a period of restoration, four display cases that have been in storage at the observatory were completely reconditioned to allow for the exhibition of a number of fascinating items associated with space and the observatory. The contents in their restored cases have steadily attracted the attention of our guests and have become a welcomed asset to our facility.

Outside Maintenance

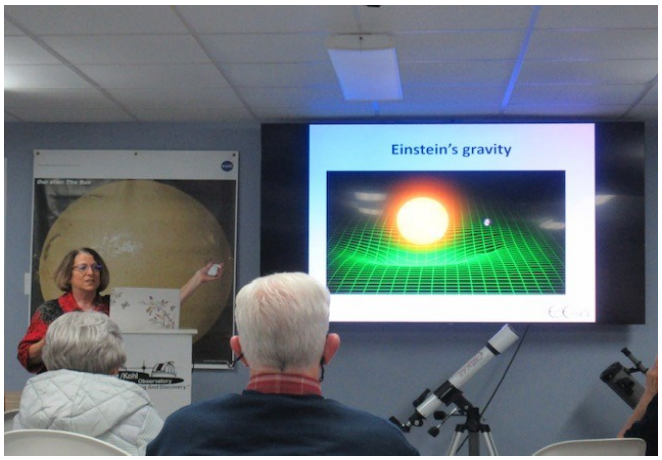
Shown wrapping up the season's outdoor work are Brian Ceci and Josh Campbell replacing the crumbling stucco on the foundation wall to improve its appearance and to add protection.

The new handicapped bathroom.

Virtual Classroom

The current classroom has been updated to a virtual classroom. Previously, visitors observed images projected onto a screen that did not meet the requirements of video presentations guest speakers needed in order to be shown with brilliance and clarity, that is essential to illustrating a wealth of information in detail. It was through an anonymous donor's generosity that the observatory's upgrade to an 85-inch television brought about a dramatic improvement for audiences to view with amazing clarity.

Pictured below is Dr. Lynn Cominsky using the virtual classroom.



In addition to the classroom, technology improvements were made to the planetarium so it could be used for an overflow for presentations in the main classroom. In addition, it can be used for smaller groups.

The Hubble Space Telescope is currently in "safe mode" after instrument failures over the last several weeks. The telescope has been working since 1990 with astronaut performed repairs in 2009. NASA is considering software changes as no further "visits" to the 'scope are planned. Software changes, if they happen at all, will happen once the Hubble team looks at control unit design diagrams, data from the lost messages, and the range of potential instrument software changes that could address the problem.

Site of the Month

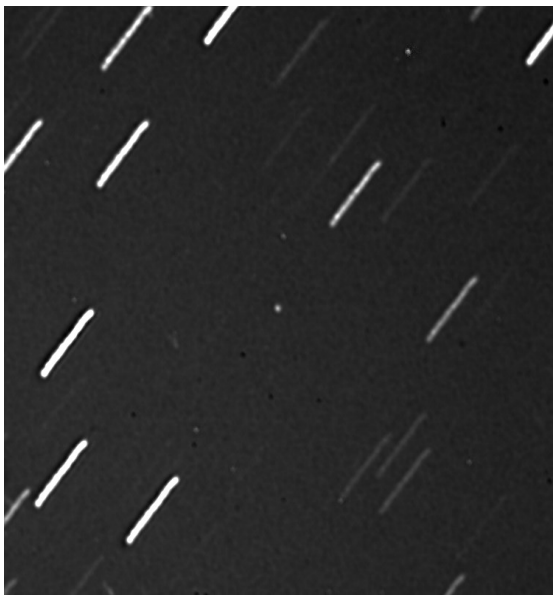
Japanese watch Jupiter get hit by space debris
https://www.space.com/jupiter-impact-flash-october-2021-photo-video

Asteroid Renamed Martz-Kohl

Tom Traub has taken images of Asteroid 69406 (1995SX48) soon to be renamed Martz-Kohl.

Needle in a Haystack

Through the efforts of Tom Traub, John Anderson and Brian Ceci, who worked to improve the tracking alignment and to gain a better understanding of the capabilities of the SiTech software tracking on the 24-inch and 20-inch telescopes, the off axis alignments are now less than 2 arc minutes in any direction. Barely visible in the center of the star trails in the image is the Tiangong space station tracked by the 24-inch, indicating a vast improvement in tracking as we continue to increase our telescope's capability.



Calendar of Events

January 5	General membership meeting at 7:30 p.m.
January 19	Zoom webinar by Carl Hergenrother, Co-coordinator Target NEOs! (Astronomical League Observing Program) at 7:30 p.m.
January 22	Doors Open Jamestown 10:00 a.m. to 4:00 p.m.
January 26	Board of Directors meeting at 7:30 p.m.
February 9	General membership meeting at 7:30 p.m.
February 16	Zoom webinar by Dr. Alexandra Yep, visiting professor at Agnes Scott College, at 7:30 p.m.
February 23	Board of Directors meeting at 7:30 p.m.

For more information on events, go to our website www.martsobservatory.org

A reminder that membership renewals for 2021-22 are due. You can mail them to MMMAA, Inc., P.O. Box 14, Frewsburg, NY 14738.