

PRESIDENT'S CORNER

by Dell Vance



Ann-Maree Vance

April was a good month. We had some clear skies and a lot of rain/snow. Bonnie did a great job at the monthly meeting presenting information about archaeoastronomy. The presentation generated great questions of what did the prehistoric humans know about the stars and astronomy? Even more importantly, how sure are we of our interpretation of what they knew? Without a written history, it is very difficult to understand what the meanings of their art and monuments truly are.

The high point for April observing was the aurora borealis on April 23. It was a spectacular event. Many images were taken, and many people saw it. I have a free subscription for the Space Weather Prediction Center Product, which issues a joint USAF/NOAA solar geophysical activity report and forecast to my phone. It tracks solar activity and lets you know of potential auroras. It is available [here](#). This service was

cont'd on p. 2

UPCOMING EVENTS

Star Party Season Has Begun!

Outreach Star Party

- May 11: Smithfield Public Library; 7:45–10:00 p.m.

Annual Summer Social

- June 9: Blacksmith Fork Canyon, 7:00 p.m., with private star party afterward. Look for more details via email as the date gets closer.

THANK YOU

for all your work on STEM events this past fall and winter!

Check your email in the near future for a list of upcoming star and solar parties!

Keep up to date by visiting our website:



President's Corner, cont'd from p. 1

sending out several notices that afternoon, that there was a very major event happening. I was excited to see that an aurora should be visible in our area. Unfortunately, as night approached it looked like it was going to be cloudy, so I didn't think we would be able to see this event. I was very wrong. Thankfully, Blaine Dickey sent out an email that the aurora was visible and happening. It is great that we have support for each other through the club. This is how we help each other to enjoy this great hobby.

From the input from our monthly meeting, we have decided to use participation in club events to track the interest in the club and remove uninterested members from the active roster. Interest is determined by participation in any event or outreach activity each quarter. This would include obvious activities such as star parties, solar parties, club meetings, and STEM Fairs. Other activities included are newsletter articles or images, Facebook postings, Library Loaner Tele-

scope supporters, and other outreach activities. For uninterested members with no activity in two consecutive quarters, they will be removed from the Groups.io emails and the active club roster. We recognize that some members have other commitments (work, family responsibilities, etc.) and cannot attend our in-person activities. We encourage them to participate in the other activities as much as possible. We have great members and hope that everyone is still interested in astronomy.

We have no meeting this month but are planning our annual social for June 9 at 7:00 p.m. up Blacksmith Fork Canyon near the Hardware Ranch area, with a club star party. We will be sending out more information as the event comes closer. Please plan on attending. It should be a great location.

Thanks again for all your support.

Clear Skies,
Dell Vance

Hey, Astronomy Hero! What's Your Origin Story?



pngset

CVAS members are astronomy superheroes who share their love of astronomy with the galaxy! (Or, at least with the people of Earth!)

What piqued your interest in astronomy? Please tell us! Send your article to Bonnie at bschenkdarr@gmail.com!

ATTENTION LIBRARY TELESCOPE COORDINATORS!



iStock and Creazilla

**Star party season is here!
Please contact your library and
ask if they would like CVAS to
host a summer star party for
them. Your community will
thank you!**

WINTER DELIGHTS

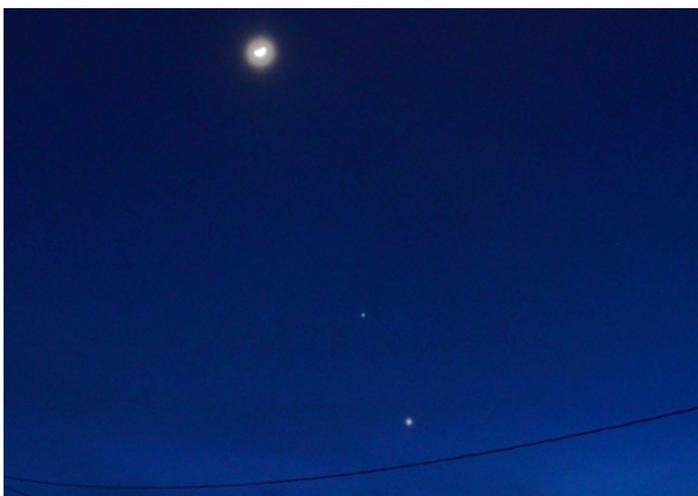
by Blaine Dickey

Most of you would agree that this has been a poor winter to do much stargazing. However, there were some clear nights and some amazing celestial events that could be observed.

In February, Comet C/2022 E3 (ZTF) was viewable with the aid of binoculars. Below is an image of the comet as it glided by reddish Mars. There is something special in viewing these wanderers as they pass through our solar system. They come into our view for a short while and then leave just as quickly.



Several days later in February, a nice grouping of celestial objects adorned our evening sky here in Cache Valley. The accompanying image shows the moon, followed lower by Jupiter and then Venus.



On the night of April 5, 2023, a full moon rose over the mountains east of Millville and made a nice pic-

ture with colorful wispy clouds. This image was taken from my front yard.



Finally on the evening of April 23, 2023, we were treated to a fairly rare display of northern lights. If you look closely, you will see the Big Dipper at the top of the middle image. Then to top it all off, the moon and Venus were also seen with the northern lights showing faintly to their left.



cont'd on p. 4

**More photos of the April
aurora borealis
on pp. 7 – 9!**

Winter Delights, cont'd from p. 3



Cache Valley Clear Skies

Most of you would agree that this has been a poor winter to do much stargazing. However, there were some clear nights and some amazing celestial events that could be observed.

Images courtesy of the author.



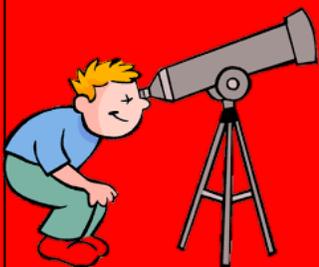
ClipartMax

USU Observatory Public Nights

Due to the poor weather conditions this spring, there has not been a public night in months. Now that summer semester has started, the next public night won't be until this fall.

You can always see the latest and greatest information about the observatory [here](#).

Stumped? Befuddled?? Bamboozled??? Telescope Help Is Available!



CoolClipart.com

When even your CVAS friends can't answer your obscure telescope questions, you might find it helpful to call Tom Sevcik at the Clark Planetarium in Salt Lake City! His number is (385) 468-1264. You can read his bio on the [Clark Planetarium website](#).

BECOME A NASA ECLIPSE AMBASSADOR

by **Bonnie Schenk-Darrington**

NASA and the Astronomical Society of the Pacific are inviting college undergrads and amateur astronomers to become Eclipse Ambassadors to prepare communities for the upcoming solar eclipses in Oct. 2023 and April 2024. This is a chance to partner with like-minded astronomy buffs to support community engagement prior to the eclipses.

You will receive training and outreach activities to share in your community. The total time commitment will be 15–20 hours, which includes training, planning, and outreach, between now and June 2024.

This opportunity is a great way to serve our com-



NASA

munity and educate others about space! It would also look great on resumes, scholarship applications, employee self-evaluations, and more. How many people can say they have actually partnered with NASA at the individual level?

You do not have to travel to a location more directly in the path to take advantage of this opportunity. You can do outreach about the 2023 and 2024 total solar eclipses right here in our very own community through the [Off the Path Program!](#)

If you would like more information, please reach out to CVAS Secretary-Treasurer Bonnie Schenk-Darrington. She can send you more information on how to sign up. You can also read more about it on [NASA's website](#).

SPICA AND THE MOON

by **Tom Westre**

The month of May is a great time to locate Spica, the brightest star in the constellation of Virgo, the Maiden.

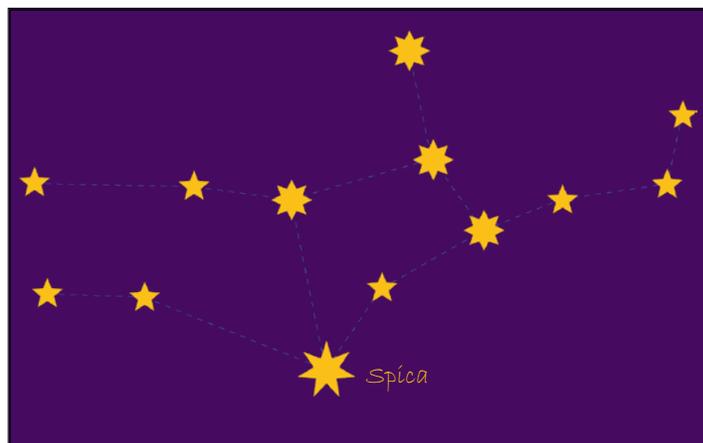
Spica is a first-magnitude star; it is the 15th brightest star as seen from Earth and lies 250 light-years from our planet.

Spica appears as a single star to the human eye and in a telescope. Astronomers using a spectroscope were able to separate the colors of the two stars. The two stars that make up the Spica system are separated by only 11 million miles. By comparison, the Earth-sun system is separated by 93 million miles.

Both stars in the Spica system orbit each other in only four days. By comparison, the planet Mercury, the closest planet to our sun, orbits the sun in 88 days.

The brightest of the two stars is about double the size of our sun. Both stars in the Spica system are hotter than the sun; their surface temperatures are estimated to be 22,400 K and 18,500 K, compared to the sun's 5,800 K.

When astronomers measure the light from Spica, its light is red shifted which means the two stars are moving away from the earth as they orbit the Milky



Creazilla

Way galaxy.

To find Spica, look for the Big Dipper after the sunset, in the northeast sky. Follow the three stars that make up the handle of the dipper until you find the next brightest star, Arcturus in the constellation Boötes. Then continue the curved path to the next brightest star, Spica.

On the evening of May 3, Spica will be just a few degrees west of the 13-day-old moon.

QUALITY TIME: HOOKED ON ASTRONOMY

My Astronomy Origin Story

by Kurt King

I first got interested in astronomy as a kid out in nature with my dad. He would always point out the constellations while hunting or whenever we were out in the dark skies. I was about 35 when I was able to purchase my first telescope. It was a 5-inch Celestron “go to” Cassegrain type of scope. It worked great, and my three kids and I spent several nights in our backyard in Price, Utah, looking at the sights. The first time you see the details of the moon, or the rings of Saturn, it is amazing, and I was hooked on astronomy forever. That little scope helped several Scout troops get their astronomy merit badges. If my kids were bored, we would pull out the scope and enjoy some viewing with their friends. It was quality time to be sure. That has now carried over to showing the sights to grandkids. It is always a lot of fun.

I got my current scope, which is an Explore Scientific 5-inch refractor about 14 years ago. This scope does well with astrophotography, which the little Celestron could not. That has opened up a whole new aspect of the hobby for me. The first time I saw a white smudge through the scope, such as the Orion nebula, it was cool, but the first time I took a one-minute expo-



Free SVG

sure of the same thing, and saw all of the color and details, it was incredible. Most of the time I get out my telescope now, my Canon camera will be there also.

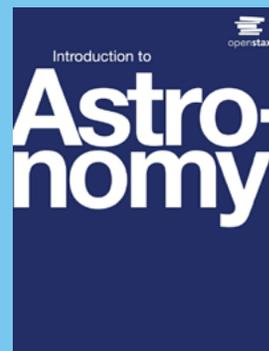
I got involved with CVAS through a USU professor of astronomy and his wife (Shane Larson and Michelle B. Larson), who led the club, and pretty much ran everything. They of course have since left the area.



Eclipse live streams available online!

Would you like to view live streams of solar eclipses? Bookmark [this link](#) so you can view eclipses in real time!

New 2nd Edition of Free Astronomy 101 Textbook Now Available!



Amazon Kindle

In an effort to democratize knowledge, the [OpenStax](#) project produces free digital and inexpensive hard-copy college-level textbooks written by professionals in many fields. You do not have to be a college student to request a copy. You can read more about the new astronomy textbook [here](#). And you can download or order a copy [here](#).

ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members

The evening of Sunday, April 23, 2023, gave Cache Valley residents an unexpected treat. A coronal mass ejection from the sun resulted in a geomagnetic storm on Earth, resulting in the aurora borealis becoming visible in areas that are usually too far south to see it, including Utah! Excited club members began swapping images via the Groups.Io e-mail group. We have all been dazzled and excited by this unusual, beautiful light show.

Ross Trowbridge

Trenton, Utah. I went out with my Nikon Z6 and my 1.8 50mm lens and took way too many two-second exposures. I was outside from about 10:15 to 11:00.



Friend Weller

Low-grade view from east Hyrum. Logan City glare down low.



ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members



Blaine Dickey

Millville, Utah,
about 10 p.m.



Bruce Horrocks

Wellsville, Utah.

ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members

Jared Smith

This photo includes a Lyrid meteor. It was a great show! I was amazed at how quickly the curtains moved across the sky.



**Your Image
Could Be in
Cache Valley
Clear Skies
Next Month!**

We all learn when you
share your
astrophotography with
the club!

Send your images to
bschenkdarr@gmail.com

[com](http://www.bschenkdarr.com)
for publication!

PNGEgg

What Is a Coronal Mass Ejection?



Wikimedia Commons

“Coronal Mass Ejections (CMEs) are large expulsions of plasma and magnetic field from the Sun’s corona. They can eject billions of tons of coronal material and carry an embedded magnetic field (frozen in flux) that is stronger than the background solar wind interplanetary magnetic field (IMF) strength. CMEs travel outward from the Sun at speeds ranging from slower than 250 kilometers per second (km/s) to as fast as near 3000 km/s. The fastest Earth-directed CMEs can reach our planet in as little as 15-18 hours. Slower CMEs can take several days to arrive. They expand in size as they propagate away from the Sun and larger CMEs can reach a size comprising nearly a quarter of the space between Earth and the Sun by the time it reaches our planet.”

—[Space Weather Prediction Center](http://www.spaceweatherpredictioncenter.com)

Free Online Course: Introduction to Amateur Astronomy



Clipart Library

Kalamazoo Astronomical Society (in Michigan) hosted a free introductory astronomy class online at the beginning of 2022.

The class is now over but CVAS has been given special permission to post links to the YouTube videos of the lectures! So, if you'd like to brush up on your introductory astronomy, here are links to the lessons!

KAS also has a gift shop full of cool stuff and offers many free online lectures, besides the introductory class. You can check out their main website at <https://www.kasonline.org>.

Introductory Astronomy Lessons

[Part 1: Our Place Among the Infinities](#)

[Part 2: Discovering the Night Sky](#)

[Part 3: Binocular Basics](#)

[Part 4: Telescope Tutorial](#)

[Part 5: The Art of Astrophotography](#)



Clipart.World and Cliparts Zone

Need a quick astronomy fix?
Tune in to CVAS's astronomy show on Utah Public Radio!

UTAH SKIES

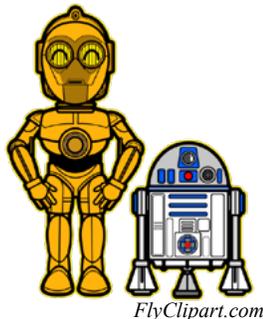
Every Tuesday at 4:48 p.m.
91.5 KUSU-FM (west Cache Valley)
89.5 KUSR (east Cache Valley)

You can also download the UPR app or listen to the livestream [here](#).
Check out our past radio shows [here](#).

UPCOMING ASTRONOMY EVENTS AND ANNIVERSARIES

by Bonnie Schenk-Darrington

- May 4: *Star Wars* Day.
- May 5: Alan Shepard was launched in the *Freedom 7* capsule. He became the first American man in space, and the second man in space ever, less than one month behind Yuri Gregarin of the Soviet Union.
- May 5: Full moon.
- May 5–6: Peak of Eta Aquariids meteor shower.
- May 9: Peak of Eta Lyrids meteor shower.
- May 13: Conjunction of the moon and Saturn.
- May 14: The first U.S. space station, *Skylab*, was launched in 1973.
- May 15: Williamina Fleming born in 1857. She



catalogued thousands of stars and discovered the Horsehead Nebula.

- May 16: Nancy Grace Roman born in 1925. She was NASA's first Chief of Astronomy and helped plan the Hubble Telescope, among many other accomplishments.
- May 17: Moon occults Jupiter.
- May 19: New moon.
- May 23: Conjunction of moon and Venus.
- May 24: Conjunction of the moon and Mars.
- May 25: President John F. Kennedy announced his intention to put [a man on the moon](#) to Congress in 1961.
- May 30: The first spacecraft to orbit Mars, *Martiner 9*, was launched in 1971.



Freepik



Wikimedia Commons



EXECUTIVE COMMITTEE

- President: Dell Vance; avteam.dell@gmail.com
- Vice President: Dale Hooper; dchooper5@gmail.com
- Secretary-Treasurer: Bonnie Schenk-Darrington; bschenkdarr@gmail.com
- Night Sky Network Coordinator: Dell Vance; avteam.dell@gmail.com
- Public Relations: Bruce Horrocks; bruceh@gembuildings.com
- Webmaster-Librarian: Tom Westre; twestre45@aol.com

The Farm and Sky



Clark Planetarium

Come enjoy a unique, family-friendly experience. Come while it's still light out to take a look at the animals and have some hot chocolate. At 9:30, Clark Planetarium will host a star party and fun activities for the kids!

Dates: May 19 and 26, 2023, weather permitting.

Location: Wheeler Farm
6351 South 900 East Murray, UT 84121

Cost: Free, but you must reserve your tickets [here](#).

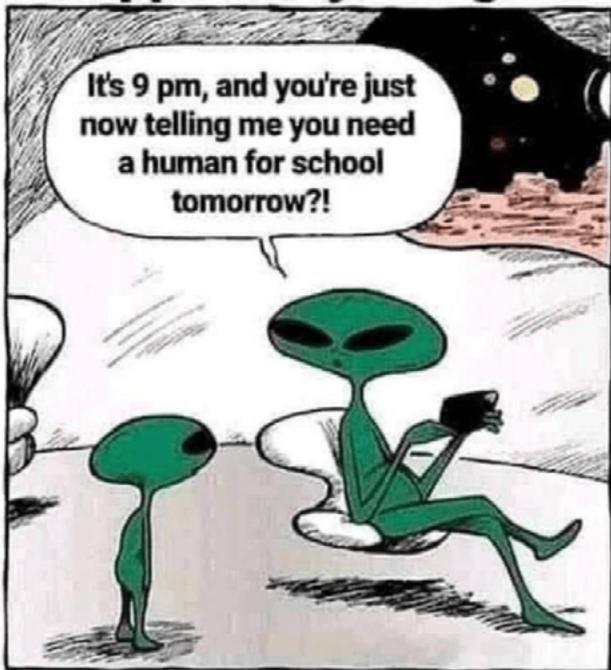
A LITTLE ASTRONOMY HUMOR



ian
@itsianraymond

i love being in STEM (shenanigans, tomfoolery, escapades, and mischief)

Why alien abductions happen only at night



The real source of the solar eclipse



Geek Universe and
I Can Haz Cheezburger

CACHE VALLEY ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION FORM

Member # _____

NAME: _____
First Middle Initial Last

Address: _____
Street City State Zip Code

Home Phone: _____ Cell Phone: _____

Work Phone : _____ Occupation : _____

Email Address: _____

How did you learn about CVAS?

____ Website ____ Star Party ____ CVAS Member ____ Other _____

Membership: \$20 lifetime membership

Tell us about yourself: Do you have a special interest in astronomy? Do you have special skills? Are you willing to volunteer on CVAS projects or attend public outreach star parties? Astro equipment owned.

By signing this application, I acknowledge I have access to the CVAS website, cvas-utahskies.org, and the CVAS constitution. I agree to abide by the constitution.

Signature: _____ Date: _____

Bring this form to the meeting or contact **Bonnie Schenk-Darrington, Secretary/Treasurer** at bschenkdarr@gmail.com.