

## PRESIDENT'S CORNER

by Dell Vance



*Ann-Maree Vance*

The weather is finally turning cold. October was a great month for outreach activities. We had STEM Fairs and Star Parties. I want to thank all those that helped us support these activities. I heard several positive comments from the students and the parents. It is always satisfying to me when you hear that “Oh, wow!” as a person sees Saturn’s rings for the first time. For me, that makes the effort to haul the equipment out and spend the time at these events worthwhile. I think back on Mr. Fred Olsen, my sixth-grade teacher, and his 9-inch reflector telescope. He held a star party in his backyard for all the summer students. It was the moment that I fell in love with the stars and astronomy.

I still get the “Oh, wow!” feeling when I image objects and see the colors pop out or the galaxy take shape. It is why I keep trying to get the best results I can with the resources that I have. I can’t count the

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## UPCOMING EVENTS

### Club Meeting

- November 16 at the Nibley City Offices. CVAS Vice President Dale Hooper will give us a presentation entitled “Understanding and Choosing Eyepieces.”

### Club Christmas Party

- December 1 at Dell Vance’s house in Newton.

### Star Parties and STEM Nights

- Will start up again in January.

Keep up to date by  
visiting our website:



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

number of times I have imaged M42, the Orion Nebula. Each time it looks even more complex and beautiful.

Therefore, our club activities move indoors as well. I hope everyone is excited to attend the club meetings. We have some very knowledgeable people in the club. The October presentation by Bonnie Schenk-Darrington on cultures and astronomy was very interesting. It was fun to see how different cultures explained the stars and the heavens. It certainly helps you to consider their point of view. This month, Dale Hooper will give us information on eyepieces and the things to consider when selecting an eyepiece. I always learn new things from Dale. The meeting is set for November 19 at the Nibley City Hall again.

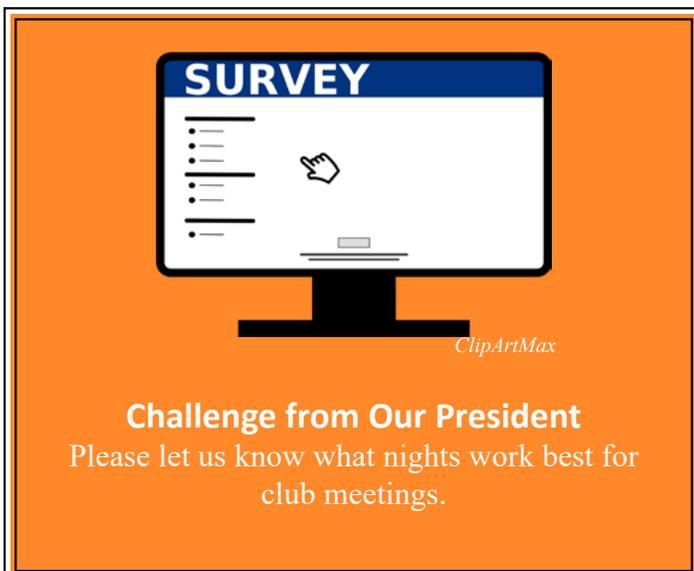
We are currently planning a club Christmas gathering at my house here in Newton on December 1, 2022.

It should be a good opportunity to get together. We'll pass on more information as we firm up the details.

We are still hoping to firm up a day of the month that will work best for most people. Please let us know your thoughts about what would be best for you. We will probably kick off the new date with the meeting in January. One suggestion we received from some of the members that were with the club before it was reorganized is that we choose Friday nights. These were very effective when the meetings were held at the USU. It was family friendly because there were no commitments for school or work the next day. It was also something that the family could do on the weekend. Certainly, something to think about.

Thanks again for your great support for the club.

Clear Skies,  
Dell Vance

**EXECUTIVE COMMITTEE**

- President: Dell Vance; [avteam.dell@gmail.com](mailto:avteam.dell@gmail.com)
- Vice President: Dale Hooper; [dchooper5@gmail.com](mailto:dchooper5@gmail.com)
- Secretary-Treasurer: Bonnie Schenk-Darrington; [bschenkdarr@gmail.com](mailto:bschenkdarr@gmail.com)
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- Public Relations: Bruce Horrocks; [bruceh@gem-buildings.com](http://bruceh@gem-buildings.com)
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# MY REVISED C90 SCOPE

by Blaine Dickey

Several times a year a local business in Cache Valley has a large sale and sometimes offers telescopes that have been demonstration models or returned merchandise. Last year, I purchased a Celestron C90mm f/13.9 Maksutov during one of these sales.

After opening the C90 case that came with it, I found out that it came with a 45 degree diagonal eyepiece holder and an 8x20mm straight optical finder scope that mounted onto the outside of the scope. Two eyepieces were also included. The first eyepiece has a 32mm focal length, which gives a magnification of 39 times and a 3/4-degree field of view, which is large enough to see the entire moon. The second eyepiece is a 12.5mm lens, which gives a magnification of 100 times.

After setting up the scope in my backyard, I turned it to the planet Saturn. The optics did not disappoint. Saturn appeared crystal clear, with the rings and their Cassini division clearly visible. Next I observed Jupiter and its moons, with many details clearly visible on

its surface.

I soon discovered a big problem with the plastic mount that came with it. It was shaky and made it difficult to center the object into the field of view. I would move the object to the top of the field of view, after which the object would drop down, sometimes completely out of the field of view. A more stable mount was clearly needed, and I went to work to see what I could do.

First I found a Dobsonian base built by Omegon that had a dovetail mount that securely holds the C90 scope to its Dobsonian base.



Next I replaced the 45 degree diagonal with a right angle diagonal that I owned that makes it easier to view objects when they are high in the sky. Then I swapped the straight 8x20mm finder scope with a 90 degree finder scope that I owned. This finder scope makes it much easier to point the telescope upward to the sky without having to kneel on the ground to point the scope.

Because this scope has a long focal length the field of view is quite small. I wanted the option of a larger field of view. I purchased an adapter from Scope City, that screwed on the rear tube of the scope which



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### C90 Scope, cont'd from p. 3

allowed me to attach a Celestron f/6.3 focal reducer. This arrangement gives a near 2-degree field of view. I can easily see the entire double cluster in Perseus with the surrounding sky.



With these changes I attached the scope to the new Dobsonian base. The Dobsonian base has a knob that twists and locks the scope onto the object I am viewing. This Dobsonian mount makes for smoother motion as I move around the sky than the included plastic tripod.

In addition I built a sturdy wood tripod that I could set the scope onto. I went to a hobby store and purchased a round wooden disc. I drilled three flat-bottomed holes into the disc for the rubber feet on the Dobsonian mount to fit into. To stabilize scope when rotating on its Dobsonian base, I glued three small wedges in between the flat bottomed holes. This worked perfectly and the telescope is now very stable, sitting on the tripod. The legs are two-by-fours cut in

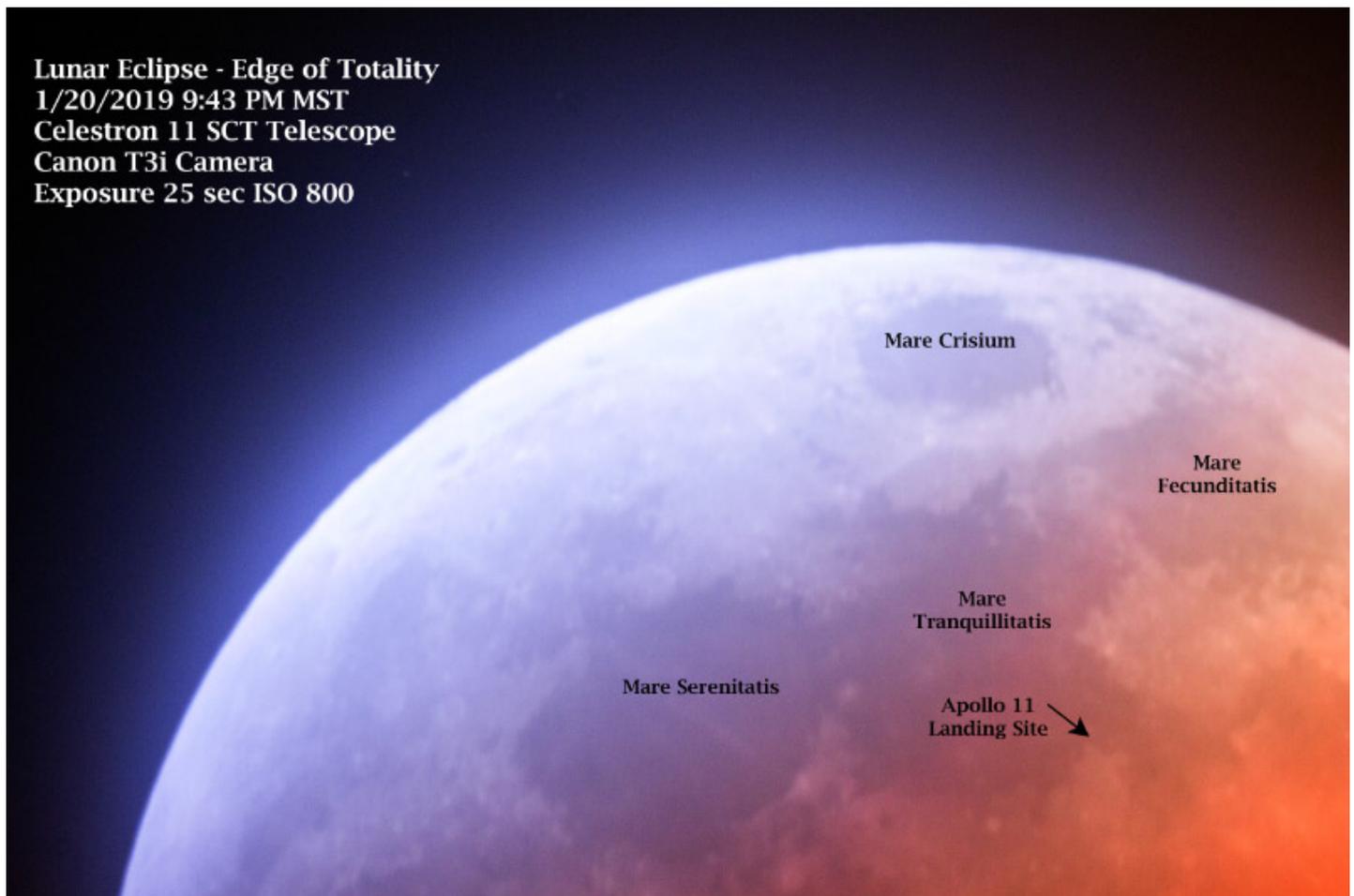
half and attached to the bottom of the tripod disc with small hinges and screws. I also coated the wood with a brown stain and clear varnish.



It is now a joy to use this scope, and it sets up in about a minute. It also makes a great travel scope, and the views through it leave nothing to be desired.

*All images courtesy of the author.*

# NOVEMBER'S TOTAL LUNAR ECLIPSE



## by Dell Vance

Next Tuesday morning, November 8, we have an opportunity to witness a total lunar eclipse. The partial eclipse will begin about 2:09 a.m. MST. The eclipse will progress to a total eclipse at 3:16 a.m. Totality will continue until 4:41 a.m. when it transitions to a partial eclipse. The partial eclipse will end about 5:45 a.m. MST. Predictions are that it will be a deep red moon. A full moon is normally a magnitude of -13. The moon's magnitude, at totality, will be about -0.5. Mars, which is just to the left of the moon, will be brighter at a magnitude of -1.4. Remember: the smaller the number for magnitude, the brighter the object.

The red color is a result of the Earth's atmosphere. The position of the moon relative to the position of the Earth affects the amount of light falling on the moon. The atmosphere bends the light, so the moon is still

receiving light, even though it is in the Earth's shadow. The blue light is scattered in the Earth's atmosphere, so the red light is more pronounced. Hence, the red color on the surface of the moon. Every total lunar eclipse can be different due to the angles of the light striking the moon. Even the magnitude of the moon can be different.

Other factors that can affect the color are natural events like volcano eruptions, smoke from fires, and so on.

The prediction is we won't have another total lunar eclipse that will be this dark until September 2025.

This eclipse should be an awesome event, assuming the sky is clear that morning. I highly recommend getting out and witnessing the eclipse.

It is readily visible with the naked eye.

*Image courtesy of the author.*

**We won't have another total lunar eclipse that will be this dark until September 2025.**

# ASTROPHOTOGRAPHY GALLERY

## Recent Images by Club Members



**Fossil Footprint Nebula (left)  
and  
Flaming Star Nebula (below)  
Dean L.**

The gear that I used are a 6-inch Newtonian telescope, an iOptron GEM28 Star Tracker, and a Player One Saturn-M dedicated astro camera with RGB filters.

It took three nights to gather all of the data for each of the photos. Every night I used a different filter either red, green, or blue. After capturing all of the data, I stacked the red, green, and blue images to get a full-color image of the nebulae.



**Your Image Could Be Here Next  
Month!**

We all learn when you share your astrophotography with the club! Send your images to [bschenkdar@gmail.com](mailto:bschenkdar@gmail.com) for publication!



*Clipart.World and Cliparts Zone*

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

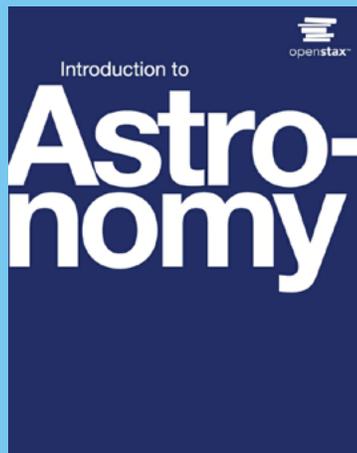
## UTAH SKIES

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](#).



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### Free Astronomy 101 Textbook Now Available!

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](#).



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

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 [bschenkdar@gmail.com](mailto:bschenkdar@gmail.com)!



Classroom Clipart

You can see CVAS events on the NASA Night Sky Network calendar at <https://nightsky.jpl.nasa.gov/clubs-and-events.cfm>. If you don't yet have access to the NSN website, please let a member of the Executive Committee know! We can add you to the roster and help you create a login and password.



ClipartMax

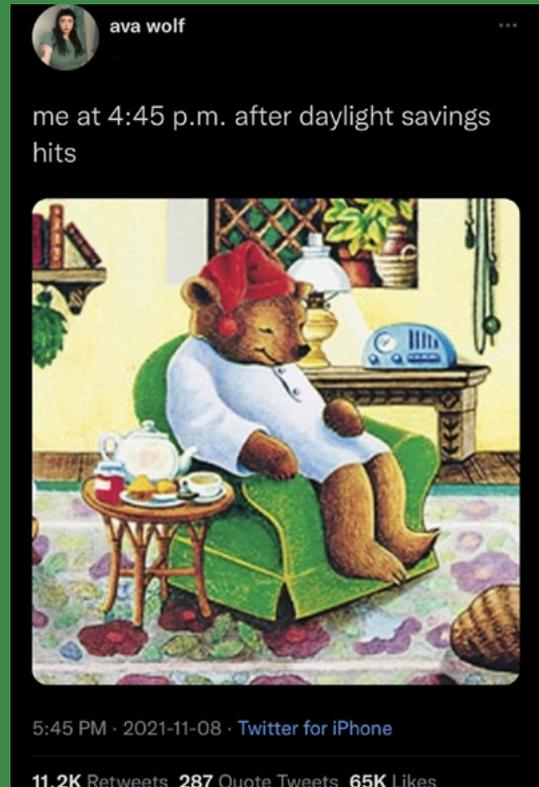
## USU Observatory Public Night

December 2, 2022  
7:00–9:00 p.m.

Get there early to ensure you can look through the telescope! Because of enthusiastic public response, only the first 400 people in line will get a chance!

For details about location, targets, weather, and parking, visit the USU Physics Department website [here](#).

## A LITTLE ASTRONOMY HUMOR



Memebase