

CACHE VALLEY

CLEAR SKIES



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From the New Newsletter Guy

Hello, Sorry for the delay in getting you out a newsletter. I am kind of new at this and I also have had to change my email address of if you have sent something that is not in here, it may be that I just did not receive it. As we start a new year with a new Executive Committee I hope that all you club members will appreciate the hours or work that each of the members who serve put in to making our club work and hopefully an enjoyable learning activity. We appreciate all the images and articles that you submit and hopefully more of you will take the time to do this. We love to hear what you are up to and what new things you have learned or observed. Trust me, spelling and punctuations are purely an optional trait to have in your articles. I am so grateful for spellcheck, because otherwise it would take a lot of imagination to guess what word I have typed. So go ahead and send in that article! I personally want to thank all those that helped with the many activities that our club participated in this past summer. Just so you know that this has added many enjoyable opportunities to serve as well as some funds to our club account so that we can have a few treats at our meetings. There are some really cool things to look forward to seeing this month, Comet Lemmon for one, and many other comets as well. This should be a great month to go see some of these once in a lifetime events. As we had the club meeting you all tread, (the one where you get nominated to serve) and since it is over, we really hope to see more of you at our future meetings where now you can just set back and enjoy the cookie and whoever is speaking. We are grateful for Randy Joist who is our new club president and his affiliation with USU so that we are able to have a room that provides a comfortable environment for our meetings including the projectors and screens. Our club meetings will be typically on the third Friday of each month and there has been better than what I expected parking availability in the parking lot just north of the Engineering building. So far I have always been able to find parking and so if that is holding you back, you can cross that off your worry list. Well enough said, now is time to get out and enjoy these fall nights and be sure to let us know what you see. Thanks to all you that have helped with the STEM nights and I am sure that there will be more of these as the year goes on. See you all soon !! – Bruce

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Monthly Club Calendar of Events

Star Parties

October 27th 8:00 PM
Mountainside Elementary

That is it for the Year!
Star Parties will start
next spring again

STEM Nights

Lincoln Elementary Oct 16th 6:00 PM
Summit Elementary Oct 20th 6:00 PM
Nibley Elementary Oct 29th 6:00 PM

Club Meetings

October 17th 7:00 PM
USU Engr Lab Rm 107

Recent Deep Sky observations

by Blaine Dickey

Comet C/2025 A6 (Lemmon)

To see this comet I arose early before dawn to image it in the morning sky. It has soft greenish color. It will be closest to the sun on Saturday Nov 8, 2025 at .53 astronomical units. It will be 121 Astronomical Units from the sun at it farthest point. Its orbital period is about 1342 years. When this comet passes the sun it will move into the evening sky in mid October and may get as bright as 4th magnitude.



Sharpless 2-235

The delightful bright red cloud of gas is located in the constellation of Auriga. It is about 1/3 the apparent size of the moon.



Recently I became interested to know if I could find any deep sky objects within 10 degrees of the north celestial pole. Referring to the Insterselleram Deep-Sky Atlas I found several objects worth looking at.

NGC 2300, NGC 2276

These sticking galaxies in the constellation Cepheus make an attractive pair. Both NGC 2300 and NGC 2276 are about 120 million light years distant.



NGC 2732

NGC 2732 is a spiral galaxy in the constellation Camelopardalis appears nearly edgewise and is located at a distance of 104 million light years.



IC 469 is a spiral galaxy located in the Constellation Cepheus and is 96 million light years distant.



NGC 7331

NGC 7331 is a beautiful spiral galaxy in the constellation Pegasus. It is 45 million light years from our solar system. What makes it somewhat unique is the number of smaller galaxies that appear near the larger galaxy. You will notice them on the left side of NGC 7331. They include from top to bottom, NGC 7336, NGC 7335, and NGC 7337. NGC 7340 is to the far left of the image. The smaller galaxies are from about 300 to 400 million light years distant. The image below was taken with my SeeStar S-50 with an exposure of 47 minutes. The small



Eagle Nebula – Bruce Horrocks

I purchased this past year the ZWO CAA device. This is supposed to make it able for me to rotate my camera from the warmth and comfort of my office and not have to go outside. I will say that so far my review of this has not been so positive. ZWO really did some frustrating things in producing this piece of equipment. As I have been out trying to figure it out, I just take some images to look at while I am figuring out which angle to rotate to next. This was the Eagle Nebula taken with SHO filter and my ZWO 2600MM camera on a 150mm refractor. I didn't spend to much time on the processing side of this image



as I have been very busy and need the time for other things. I do find it quite impressive that now images that were once only possible by large telescopes and very sophisticated equipment, are now being produced in our backyards and on a much smaller budget than what NASA has. I remember only a few years ago talking to a group and commenting on how astrophotography would be taking over this hobby and I do think that is were it is.



Source: SkySafari

Uranus & the Pleiades

Uranus takes 84 years to orbit the Sun, and hence, we currently have a once-in-a-lifetime opportunity to see the planet close to the Pleiades. This time around, the planet and cluster occupy the same 10x50 binocular field of view from mid-April 2025 to mid-August 2026, and then again (but with a slightly wider separation) between mid-October 2026 and late May 2027.

On July 15th this year, 4 degrees, 15 arcminutes, and 46.3 arcseconds separated the pair, but their proximity to the Sun made observations difficult. This month, on the 30th, the gap between the pair will be marginally wider - 4 degrees, 15 arcminutes, and 48.3 arcseconds - giving us a second opportunity to see them together. This will be your best chance this year; 4 degrees, 13 arcminutes, and 6.6 arcseconds separate them on May 1st next year, but with the Sun 19 degrees away, it's unlikely you'll be able to see them both.

OUR NEAREST NEIGHBORS

Mars can be found clinging to the west-southwestern horizon this month, and is joined by **Mercury** from mid-month onwards. Two degrees will separate them on the 18th and 19th, with Mercury, the brighter of the two, just six degrees above the horizon at around 15 minutes after sunset. Look for a thin, two-day-old Moon to their left on the 23rd. The gap between **Saturn** and **Neptune** widens from three to four degrees this month, but both remain in an excellent position for observation throughout the night. An almost full Moon hangs nearby on the 5th. **Uranus** is observable from late evening, just 4.3 degrees from the Pleiades. **Jupiter** is closest to Pollux in Gemini from the 10th to the 15th, when it passes 6 degrees and 38 arcseconds south of the star. The last quarter Moon appears close to Castor, Pollux, and Jupiter in the early hours of the 13th and 14th. **Venus** continues to lose ground against the Sun but can still be seen shortly before dawn in the east, with a waning crescent Moon to its upper right on the 19th. There's a full Harvest **Moon** in Pisces on the 6th, with a new Moon occurring on the 21st.

NGC 457: A fine cluster for small telescopes and astrophotographers, a low magnification will show Phi Cassiopeiae, the double star that gives the owl its eyes. The remaining, fainter stars outline the bird's body and wings, with the stars appearing densest in its chest area.

Orionid Meteor Shower: The Orionids can be relied upon to produce 20 shooting stars an hour under ideal conditions. The shower's peak occurs on October 21st, when the Moon is new, giving observers good odds.

Mesarthim (Gamma Arietis): An easy double for almost any telescope, a magnification of 35x will barely split Mesarthim into two white stars of nearly equal brightness, with the best views coming with a magnification of around 100x.

NGC 7662: A magnification of just under 100x shows a small, circular, slightly blue disc - much like a planet. Increasing the magnification to over 200x will show rings of blue and green surrounding the darker center.

NGC 7662



Source: NASA, ESA, and A. Hajian

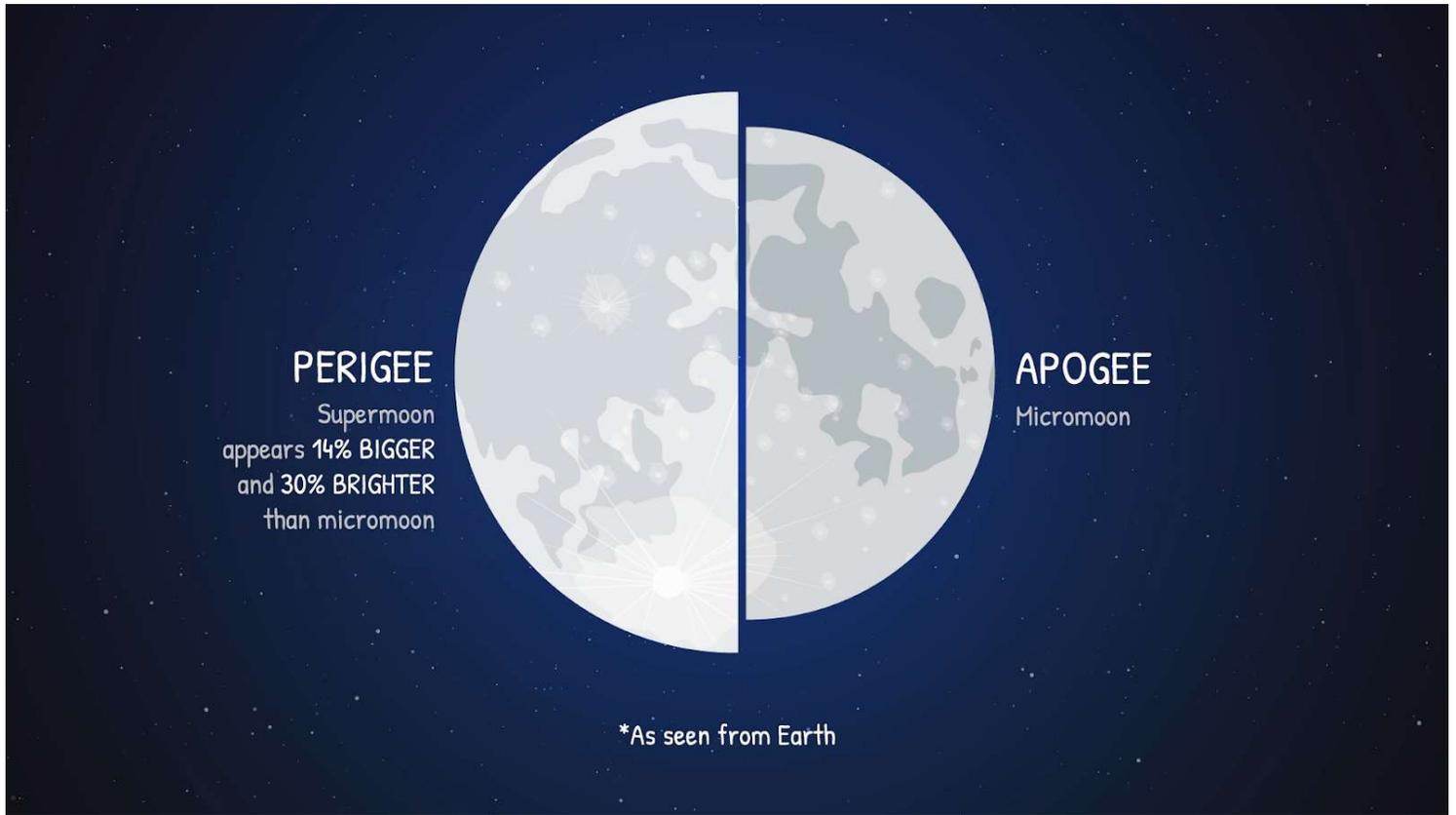
STELLAR CONCEPTS

Harvest Moon: If you think September's full Moon is the Harvest Moon, you'd only be partially correct. The Harvest Moon is actually the full Moon that occurs closest to the autumnal equinox. This year, with full Moons on September 7th and October 6th, the Harvest Moon occurs in October. The next October Harvest Moon will occur on October 3rd, 2028.

What's Up for October?

A Supermoon takes over, the Draconid meteor shower peeks through, and the Orionid meteors sparkle across the night sky.

The evening of October 6, look up and be amazed as the full moon is bigger and brighter because - it's a supermoon!



Illustrated infographic showing the difference (as seen from Earth) between perigee, when a supermoon appears, and apogee, when a micro moon appears.

NASA/JPL-Caltech

This evening, the moon could appear to be about 30% brighter and up to 14% larger than a typical full moon. But why?

Supermoons happen when a new moon or a full moon coincides with "perigee," which is when the moon is at its closest to Earth all month.

So this is an exceptionally close full moon! Which explains its spectacular appearance.

And what timing - while the supermoon appears on October 6th, just a couple of days before on October 4th is "International Observe the Moon Night"!

It's an annual, worldwide event when Moon enthusiasts come together to enjoy our natural satellite. You can attend or host a moon-viewing party, or simply observe the Moon from wherever you are.

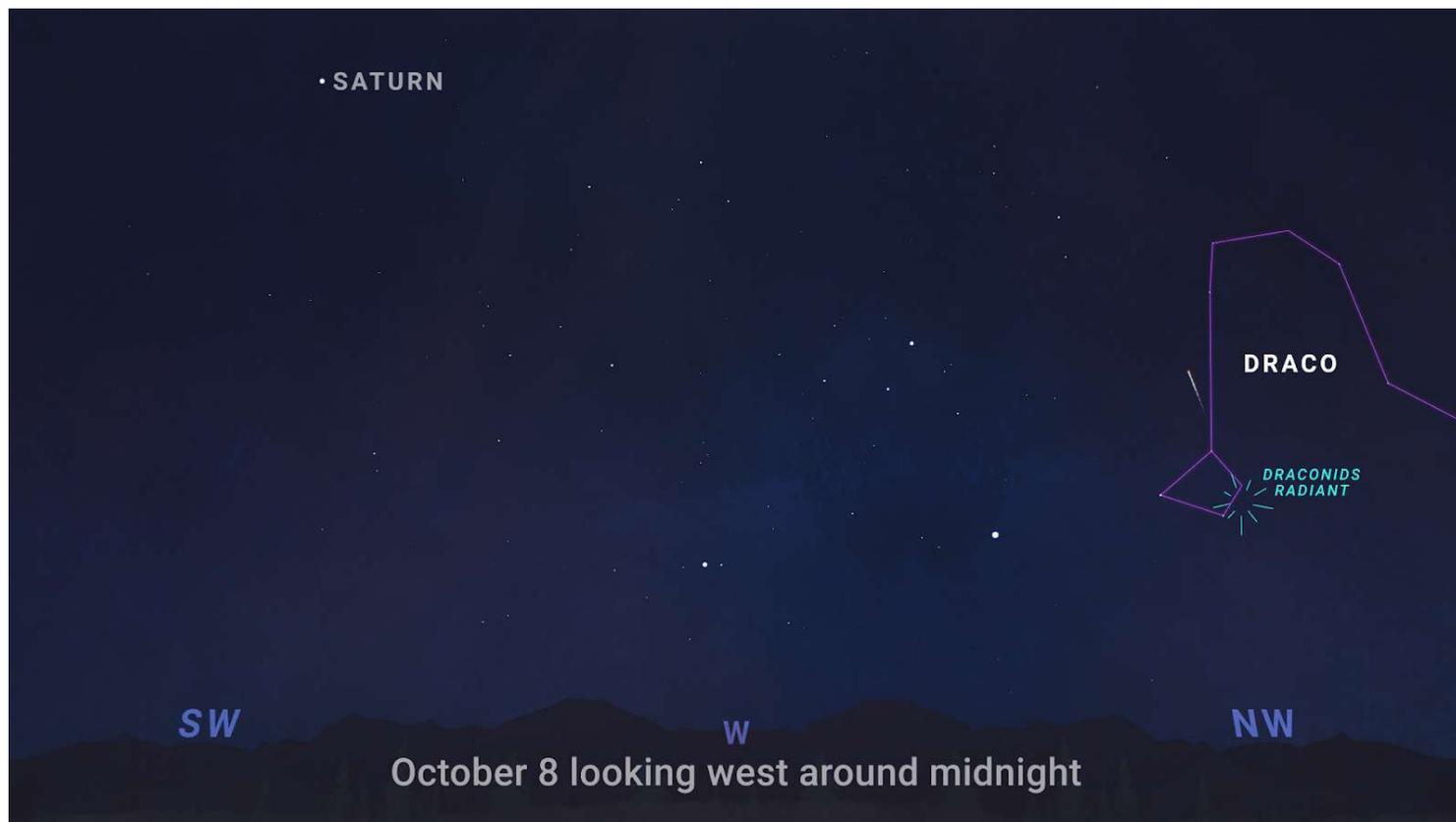
So look up, and celebrate the moon along with people all around the world!

The supermoon will light up the sky on October 6th, but if you luck into some dark sky between October 6th and 10th, you might witness the first of two October meteor showers - the Draconids!

The Draconid meteor shower comes from debris trailing the comet 21P Giacobini-Zinner burning up in Earth's atmosphere

These meteors originate from nearby the head of the constellation Draco the dragon in the northern sky and the shower can produce up to 10 meteors per hour!

The Draconids peak around October 8th, but if you don't see any, you can always blame the bright supermoon and wait a few weeks until the next meteor shower - the Orionids!



Sky chart showing the Draconid meteor shower, including the radiant point of the shower and the Draco constellation where the meteors in the shower are often seen and stem from.

NASA/JPL-Caltech

The Orionid meteor shower, peaking October 21, is set to put on a spectacular show, shooting about 20 meteors per hour across the night sky.

This meteor shower happens when Earth travels through the debris trailing behind Halley's Comet and it burns up in our atmosphere.

The full duration of the meteor shower stretches from September 26 to November 22, but your best bet to see meteors is on October 21 before midnight until around 2 am.



Sky chart showing the Orionid meteor shower, including the radiant point of the shower and the Orion constellation where the meteors in the shower are often seen and stem from.

NASA/JPL-Caltech

This is because, not only is this night the shower's peak, it is also the October new moon, meaning the moon will be between the Earth and the Sun, making it dark and invisible to us.

With a moonless sky, you're much more likely to catch a fireball careening through the night.

So find a dark location after the sun has set, look to the southeast sky (if you're in the northern hemisphere) and the northeast (if you're in the southern hemisphere) and enjoy!

Orionid meteors appear to come from the direction of the Orion constellation but you might catch them all across the sky.

Here are the phases of the Moon for October.

You can stay up to date on all of NASA's missions exploring the solar system and beyond at science.nasa.gov.

I'm Chelsea Gohd from NASA's Jet Propulsion Laboratory, and that's What's Up for this month.

