

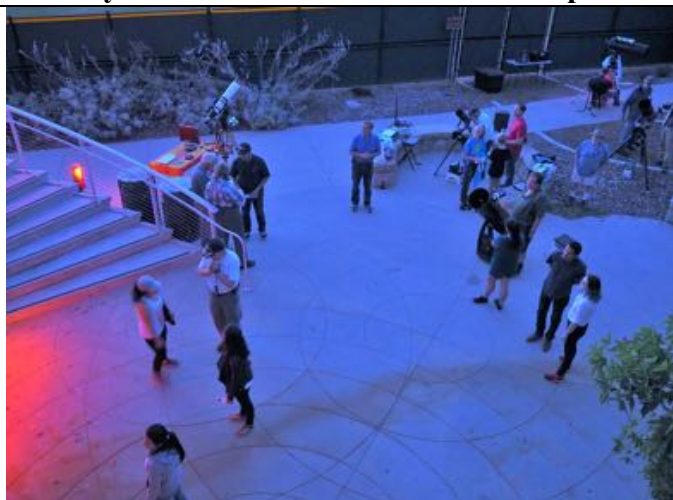


# AU AstroNews

## The Newsletter of the Astronomical Unit

May 2021

Sponsored by the Santa Barbara Museum of Natural History



Setting up at the Westmont Observatory. Photo credit: Tom Totton.

### OUTREACH SUMMARY

Because of the ongoing pandemic, there was no in-person public telescope outreach in April. Get vaccinated when you can, then stay safe and healthy by wearing masks, washing your hands frequently, and practicing physical distancing.

### OUTREACH EVENTS

The SBAU radio hour has been replaced by a weekly Zoom/YouTube Live event every Monday at 11 AM. If you watch, the Live video should be able to take comments and questions in its Chat area: <https://tinyurl.com/2vss2yam>

For May, there will be no SBAU meetings, in-person public telescope outreach, or school events.

### MAY SKY

The International Space Station will be appearing in our evening skies from May 13 through June 6. Its orbit may change from time to time, so to get the latest and most complete predictions, visit Heavens Above <<https://tinyurl.com/y5yt22ch>>

May's sky events in Santa Barbara will feature the Moon and the inferior planets, Venus and Mercury. Inferior, in this context, just means that they are closer to the Sun than we are. Most people think of

Mars as the Earth's nearest neighbor, since it can be about 35 million miles away during close approaches. Venus, though, can be about 24 million miles away during favorable conjunctions. However, if you take time spent close to Earth into consideration, Mercury is the closest, even though it gets no closer than 48 million miles. This is because it orbits quickly (88 days in its year), and averages only 36 million miles away from the Sun, so it's relatively close even when it's on the opposite side of the Sun from us. By that average over time metric, Mercury is also the closest planet to each of the others in our solar system!

On Monday, May 3, at about 7:50 PM PDT right after sunset, get out your binoculars to catch Mercury just 2 degrees left of the Pleiades in the western sky. If you have a low horizon, Venus will be bright and very low, almost directly below Mercury.

On Wednesday, May 12 just after sunset, a very thin crescent Moon will be snuggled up to Venus. Again, the best view will be through binoculars.

Saturday, May 15, is International Astronomy Day. The SBAU can't share the sky with the public, but you can still get out under the stars and enjoy the sights yourself.

On the 17th, again in binoculars, find Mercury at its highest altitude above the western horizon, 21 degrees up at 7:50 PM. It will be 8 degrees above, and slightly left of brilliant Venus. For scale, your closed fist held at arm's length subtends about 10 degrees of arc.

On Tuesday, May 18, look along the lunar terminator, just down from center, to catch the Lunar X as the Sun illuminates intersecting crater rims in the darkness, from about 4:45 PM to about 7:10 PM.

In the early morning of Wednesday, May 26, don't miss the shallow, but **total lunar eclipse** of the biggest supermoon of 2021. The dim penumbral

phase starts about 1:48 AM, and our darker umbral shadow hits at about 2:45 AM. Totality starts about 4:11 AM, but the northern parts of the Moon will be barely within the umbra, and so will appear brighter. Maximum eclipse will be around 4:19 AM, and totality will end at about 4:26 AM, so we only get about 15 minutes. The Sun will rise around 5:50 AM, and the umbra will leave the Moon at about 5:52 AM, with the Moon setting shortly afterward, while still in the penumbra, at about 5:58 AM.

Just after sunset in the west on Friday, May 28, there will be a close conjunction of Mercury and Venus, with a separation of just 0.4 degrees. Mercury will be to the left and slightly below Venus, but will be about 6 magnitudes dimmer than Venus, so you'll definitely need your binoculars or a telescope and a clear sky.

### FROM THE PRESIDENT

Jerry Wilson

At a social event a friend once asked me how high you had to go to get out of the Earth's gravitational field to experience weightlessness. He was a smart fellow and very interested in space and space travel. His misunderstanding was understandable because, unless someone has taken a science class, the world is full of misinformation.

It's especially a problem if your information comes from TV series and movies. Some movies like *Interstellar*, which retained John Wheeler, an expert in general relativity, as a consultant, do get the science right, but many get it ludicrously wrong.

How many times have you seen a show which has a telescope in the background pointed down instead of up? Refractors are easy to get right, but some prop departments use small Newtonian reflectors and point them down. The uninitiated think the eyepiece focuser must go on the lower end of the scope, like a refractor. To someone who knows what's up, it's very distracting.

In the second *Star Wars* movie, "The Empire Strikes Back", which I thoroughly enjoyed, the movie ends with a view out a large picture window of an Andromeda-like galaxy. But you quickly perceive the galaxy is rotating! Also in this vein is the idea of faster-than-light travel, with stars zipping by. We just ignore such things and enjoy the movie; after all, we get the idea and it's just a story

But aside from enjoying the movie as entertainment, it innocently perpetuates misinformation and is a symptom of a largely scientifically illiterate populace. In a world as technically complex as ours is becoming, this illiteracy is dividing us into two incompatible groups: one that runs on knowledge, and the other on belief and lore. Effective dialogue between these two groups can be very difficult.

I told my friend that the Earth's gravitational field goes on forever. In fact, at this very moment we are in the gravitational field of every other mass in the universe. What we perceive as weight is when we stand on an object that resists our accelerating in response to gravity's pull. When we don't resist gravity, we fall. When we fall, we are weightless. Falling is the feeling of weightlessness. He looked puzzled and ordered another Scotch.

### ARTS CORNER

Keep a Poem In Your Pocket

Beatrice Schenk de Regniers

Keep a poem in your pocket  
And a picture in your head  
And you'll never feel lonely  
At night when you're in bed.

The Peace of Wild Things

Wendell Berry

I come into the peace of wild things  
who do not tax their lives with  
forethought  
of grief. I come into the  
presence of still water.  
And I feel above me the day-  
blind stars  
waiting with their light. For a  
time  
I rest in the grace of the  
world, and am free.

When I Am Among the Trees

Mary Oliver

When I am among the trees,  
especially the willows and the  
honey locust,  
equally the beach, the oaks  
and the pines,  
they give off such hints of gladness.  
I would almost say that they  
save me, daily.



“I’m not sure I want to wait that long just for Ron’s autograph.” Photo credit: Tom Totton.



“Well. I’ll be darned. You mean to tell me that I could grow red potatoes on Mars?” Photo credit: Tom Totton.



“If I can get this puppy polar-aligned, I’m gonna try to pull in Pluto tonight!” Photo credit: Tom Totton.

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## May 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 MERCURY AND PLEIADES	4 LQ MOON	5	6	7	8
9	10	11 NEW MOON	12 MOON AND VENUS	13	14	15 INTERNATIONAL ASTRONOMY DAY
16	17 MERCURY HIGHEST	18 FQ MOON  LUNAR X	19	20	21	22
23	24	25	26 FULL MOON  TOTAL LUNAR ECLIPSE	27	28 MERCURY AND VENUS	29
30	31					