



# AU AstroNews

## The Newsletter of the Astronomical Unit

August 2020

Sponsored by the Santa Barbara Museum of Natural History



Club member, Andre Yew, captured this image of comet NEOWISE over Santa Barbara High.

### OUTREACH SUMMARY

Because of the ongoing pandemic, there was no public telescope outreach in July. Please stay safe and healthy by wearing masks, washing your hands frequently, and practicing physical distancing.

### OUTREACH EVENTS

The SBAU radio hour on KZSB 1290 AM at 9 AM on the second and fourth Monday of each month will continue as a phone-in show, thanks to the dedication of Baron Ron Herron. Otherwise, there will be no SBAU meetings, public telescope outreach, or school events.

Although the Museum has opened for a limited set of outdoor activities, star parties and club meetings

are as yet too contact-intensive for this stage of the pandemic.

### AUGUST SKY SIGHTS

I hope you've all been getting nice views of Comet C/2020 F3 NEOWISE in the northwest after sunset. The comet will start August in Coma Berenices, left and below the handle of the Big Dipper. It will remain an early evening object, and should still be bright enough to detect with your unaided eyes from a dark site, but is getting dimmer as it moves away from us. Binoculars will give the best views. By August 7, it will be below Arcturus, heading into Virgo by the end of the month.

On August 1, a 97% illuminated Moon will make a nice triangle with Jupiter and Saturn in the southeastern sky. This month is prime time to observe the gas giants.

On August 3, Mars will be at perihelion. Rising between 11 PM and midnight, it is brightening and growing in apparent size as it heads for its close appearance and prime viewing in October. On the night of August 9, it will be in a close pairing with a nearly full Moon.

The annual Perseid Meteor Shower will peak for us on the morning of August 12, but will unfortunately be accompanied by a bright, just past last quarter Moon. It will still be worth looking for fireballs before moonrise on the nights before and after the peak.

At 9:15 PM PDT on August 14, you can catch the shadows of both Io and Ganymede crossing the face of Jupiter. If you miss it, you get another chance at 11:40 PM on August 21, same planet, same moons.

Before dawn on August 15, catch a crescent Moon with brilliant Venus in the eastern sky.

On August 25, between about 4:35 PM and 7 PM, scan the Moon along the terminator to see the Lunar X, formed by the illuminated peaks of intersecting crater walls.

See a dwarf planet in binoculars on the night August 28 as Ceres reaches opposition in Aquarius, at a visual magnitude of about 7.7. Check [skyandtelescope.org](http://skyandtelescope.org) or your favorite planetarium app for a finder chart.

## From the President

*Jerry Wilson*

Every two years, plus a little, Mars and Earth are in a closest approach, opening a launch window on Earth to send probes to Mars with a minimal transit time. That window is open in July this year. This time around there are three contenders; the United Arab Emirates, China, and the US. All three, if launched on time, will arrive in January 2021.

The action started on July 14 with the launch of UAE's Hope Mars Mission. It will use three science instruments to study the Red Planet's atmosphere, weather, and climate from above. The Hope spacecraft was built by the UAE's Mohammed bin Rashid Space Center, in partnership with the University of Colorado Boulder, Arizona State University, and the University of California Berkeley. And the project is breaking ground for more than just the UAE: Hope is the first planetary science mission led by an Arab-Islamic nation.

China has not announced the exact launch date, but moved its largest launch vehicle, the Long March 5, into position on July 17 with lift off expected on Thursday July 23. The mission, named Tianwen 1, is an ambitious attempt to place an orbiter around the Red Planet and a robotic rover on the Martian surface.

The United States is sending its fifth rover, NASA's most capable ever, in the hope of finding evidence of past life on Mars and collecting a set of rocks that will one day be the first samples flown back to Earth. The launch date is set for July 30. The six-wheeled, three-meter-long rover, named Perseverance, will arrive at Mars with the focused task of identifying and collecting a [broad range of rocks](#) representing the geological history of the area. And it is supposed to fulfill that mission in one Mars year — nearly two Earth years. Whatever the

rover picks up will help to shape the course of Mars science for decades to come.

Perseverance is an upgraded copy of Curiosity, to save money, with addition of a sample storage system and upgraded wheels. The rover also sports an experiment that will try to produce oxygen from Mars's carbon dioxide-rich atmosphere, as a test of ways to support future human explorers. The rover has X-ray and ultraviolet spectrometers for analyzing mineralogy in detail — and, for a bit more novelty, microphones for listening to Martian sounds, plus a squat, solar-powered helicopter.

Perseverance carries 43 tubes in its belly. When it encounters a rock that mission scientists want to sample, the rover will reach out its 2.1-meter-long robotic arm and drill a sample about the size of a penlight: 60 millimeters long and 13 millimeters across. The sample goes into a tube and is sealed. Eventually, once Perseverance has filled at least 20 of its tubes, it will cache them on the surface of Mars until some future, yet-to-be-funded robot arrives to retrieve them. NASA currently plans to work with the European Space Agency (ESA) to launch a mission in 2026 that would return the rocks to Earth in 2031.



“Gee. Thanks for setting me straight, Jerry. I can’t believe that, for all these years, I have been looking down the wrong end!” Photo credit: Tom Totton.

## Arts Corner

“You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make.”

Jane Goodall

## Though It Is Tough to Choose It

Rosemerry Wahtola Trommer

Even a small discontent is enough to shut us down,  
convince us that the world is cold and indifferent.

Everywhere there's evidence of this: The slush

that falls on your car seat when you open the car door.

The carrion eaters with their great black wings

that linger beside the road. You pray for sun,

and it gets darker. Someone asks you a question, and you see your whole life fold into one small envelope of failure.

Then one day you hit against the same impassable wall you always hit and this time you fall to your knees, not because you are weak,

but because at last you are ready to be opened.

Oh sweet failure, how it leads us.

Any unhappy ending is only an invitation

to crawl into the blank pages of the next unwritten chapter.

It was never success that transformed us—

always the breaking. Not the breaking itself,

but the mystery inside pushing through us like bindweed through pavement

making cracks in everything we think we know so that the world can come streaming in.

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## August 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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2	3	4	5	6	7	8
9	10 TECH TALK KZSB (AM1290) 9-10 AM	11	12	13	14	15
16	17	18	19	20	21	22
23	24 TECH TALK KZSB (AM1290) 9-10 AM	25	26	27	28	29
30	31					