



AU AstroNews

The Newsletter of the Astronomical Unit

January 2025

Sponsored by the Santa Barbara Museum of Natural History



Ila Jade Komasa, Lead Astronomy Programs Presenter, readies for outreach at the Palmer Observatory. Photo: T. Totton.

SBAU ELECTION RESULTS

After another fiercely contested election, Jerry Wilson remains President, Ronnie Herron remains Vice President, Pat McPartlin remains Treasurer, and Tessa Flanagan is our new Secretary. Victims of appointed positions remain the same.

THE MOON OCCULTS MARS

The rising Full Moon will pass in front of the red planet Mars on Monday, January 13. Mars will vanish behind the lower left limb of the Moon around 5:51 PM PST, and emerge from the upper right limb near Mare Crisium at about 6:46 PM.

You'll need a good view of our eastern horizon to see the beginning of the occultation, at an altitude of only 7 degrees.

OUTREACH SUMMARY

Since the last newsletter, SBAU volunteers Krissie Cook, Tim Crawford, Tessa Flanagan, Brian Green, Art Harris, David Larson, Pat & Chuck McPartlin, Edgar Ocampo, and Tom Whittemore showed cool stuff in the sky to **401** people.

SBAU volunteers must have undergone the SBMNH background check, and conform with the SBMNH policies for dealing with the public, to participate in outreach activities. To get vetted, contact SBMNH Volunteer Manager Rebecca Coulter <rcoulter@sbnature2.org>. It's quick and painless.

OUTREACH EVENTS

FRIDAY, JANUARY 3, 7 PM

Quick planetarium show, then at 7:30, our monthly meeting in Fleischmann Auditorium at SBMNH. This will be a hybrid meeting, also on Zoom. Watch your email or find the link on the SBAU web page. Our speaker, Damian J. Christian, will talk about exoplanet research techniques and discoveries.

SATURDAY, JANUARY 4, 5 AM

Earth is at perihelion, closest to the Sun for the year.

TUESDAY, JANUARY 7, SETUP 7 PM

Telescope Tuesday at Camino Real Marketplace, in the plaza by the theater.

FRIDAY, JANUARY 10, SETUP 5 PM

Telescopes for students and family from Fusion Academy. We'll set up at the east end of Shoreline Park.

SATURDAY, JANUARY 11, 4 PM

AU monthly planning meeting on Zoom. Watch your email for the link.

SATURDAY, JANUARY 11, SETUP 6 PM

Monthly Public Star Party at SBMNH, at Palmer Observatory from 7 to 10 PM.

WEDNESDAY, JANUARY 15, SETUP 4 PM

Potluck dinner for volunteers. Science Night at Mountain View School, 5465 Queen Ann Lane in Goleta. We set up on the blacktop area of the playground, entering through a gate on the N side of campus.

FRIDAY, JANUARY 17, SETUP 5 PM

Monthly Public Telescope Night at Westmont, at their Keck Observatory, next to the athletic fields.

THURSDAY, JANUARY 23, SETUP 5 PM

Telescopes for Science Night at Brandon School, 195 Brandon Drive in Goleta.

WEDNESDAY, JANUARY 29, SETUP 5 PM

Telescopes for an Astronomy Night at Santa Barbara Junior High School, 721 E Cota Street. We set up behind the Marjorie Luke Theater on campus.

FRIDAY, JANUARY 31, ARRIVE AT 4:30 PM

Telescopes for an Astronomy Night at the Bulito Beach site at Hollister Ranch. Potluck dinner at 5 PM, followed by viewing. Access is strictly limited, so if you plan to attend, notify Chuck by 01/15 at macpuzl@west.net to get on the list to get through the gate.

FROM THE PRESIDENT

Jerry Wilson

Our Moon is slowly drifting away from Earth causing Earth's rotation to slow down, lengthening our days:

1. Earth's day was less than 10 hours long when the Moon was first formed about 4.5 billion years ago.
2. About 2 billion years ago a day was 19 hours long.
3. The day was 23.5 hours long and a year lasted 372 days when dinosaurs walked the Earth.
4. We will eventually have 25 hours in a day in another 200 million years.

The recession of the Moon and the slowing of Earth's rotation are coupled through a fascinating process called tidal acceleration.

- A. The Moon's gravity causes two tidal bulges on Earth: one on the side facing the Moon and the other on the opposite side.
- B. These tidal bulges are constantly being pushed ahead by the comparably rapid rotation of the Earth.
- C. These bulges provide an extra gravitational tug on the Moon giving it the extra energy for a slightly higher orbit.
- D. This process transfers angular momentum from Earth's rotation to the Moon's orbit. As a result, Earth's rotation slows down, and the Moon's orbit increases in radius.

This coupling has two main consequences. The slowing of Earth's rotation results in a longer day. This effect is quite small, adding about 1.78 milliseconds to the length of a day every century. The increase in the Moon's orbital radius causes it to move away from Earth at a rate of about 3.8 centimeters (1.5 inches) per year. This process has been occurring for billions of years and will continue to do so. However, it's worth noting that the Sun's gravitational influence on Earth also plays a role in this process, although its effect is much weaker than the Moon's.



Setting up at the Palmer Observatory for a Second Saturday outreach. Photo credit: Tom Totton.



“Remind me, Ronnie. How many times does two go into four?” Photo credit: Tom Totton.



“Gosh. I wonder if the little guy will fit in my car....” Photo credit: Tom Totton.

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SBMNH Astronomy Programs Manager CURRENTLY VACANT

AU AstroNews, the monthly publication of the **Astronomical Unit (AU)**, is mailed to the AU membership. For publishing consideration for the next month, submit astronomical items by the 20th of the current month!

AU annual membership rate: \$20

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JANUARY 2025						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3 SBAU HYBRID MEETING 7 PM	4 EARTH IS AT PERIHELION AT 5 AM
5	6	7 CAMINO REAL MARKETPLACE 7 PM	8	9	10 FUSION ACADEMY 5 PM	11 ZOOM PLANNING MEETING 4 PM STAR PARTY 6 PM
12	13	14	15 MOUNTAIN VIEW SCHOOL 4 PM	16	17 WESTMONT PUBLIC STAR PARTY 5 PM	18
19	20	21	22	23 BRANDON SCHOOL 5 PM	24	25
26	27	28	29 SBJHS 5 PM	30	31 BULITO BEACH 4:30 PM	