



AU AstroNews

The Newsletter of the Astronomical Unit

October 2023

Sponsored by the Santa Barbara Museum of Natural History



Enjoying some “light” moments at a mirror-making workshop.
Photo credit: Tom Totton.

PARTIAL SOLAR ECLIPSE, SATURDAY

OCTOBER 14

Watch the solar eclipse with us at Goleta’s Camino Real Marketplace!

Looking directly at a solar eclipse is dangerous, so we’re offering two cool ways to safely experience this cosmic phenomenon. Enjoy a closer view through our specially-filtered solar telescopes, and get your own pair of eclipse glasses (\$2.95 plus tax, proceeds support the Museum).

Drop in anytime between 7:00 and noon to ask astronomy questions and buy glasses while supplies last. The main action will take place starting at 8:03 AM, when the Moon begins to move in front of the Sun. Our best viewing will be 9:23–9:25 AM, when the 70% partial eclipse visible from our region will be most impressive. By 10:48, the Moon will have moved totally out of the way, and we’ll enjoy normal solar telescope viewing for the remainder of our party (weather permitting).

This free public eclipse viewing party in Goleta is presented by the Santa Barbara Astronomical Unit (SBAU) in collaboration with the Santa Barbara Museum of Natural History's Astronomy Programs.

ANNUAL AU CAMPOUT

The AU campout will take place at the Mohawk Shores group site at Cachuma Lake, with arrival on Friday, October 20 after 3 PM, and checkout on Sunday, October 22 by 1 PM. To see their rules and regulations for pets and activities, visit <https://www.countyofsb.org/637/Cachuma-Lake>. The campout is free to SBAU members, but we are limited to parking for 22 vehicles, after which there is a \$10 entry fee per vehicle.

We will have a potluck dinner on Saturday at 5 PM. The potluck will have a catered main dish (tri-tip, chicken, garlic bread). Bring a salad or dessert dish to share.

If you are interested in taking the wonderful Nature Cruise, be sure to reserve a slot (10 to 11:30 AM, 2 to 3:30 PM) on Saturday or Sunday by calling 805-688-4515. Adults \$18 (ages 13 and up), Kids \$10 (ages 5 to 12 year old; please no children under 5).

SBAU ELECTION

Our annual election is coming up in December. If you are interested in serving as an officer in the club, contact Vice President Ron Herron at brherron@gmail.com. Positions and their duties are detailed on the SBAU web page.

OUTREACH SUMMARY

Since the last newsletter, certified SBAU/SBMNH volunteers Tim Crawford, Joe Doyle, Tessa Flanagan & Duff Kennedy, Art Harris, David Larson, Pat & Chuck McPartlin, Mary Megrant, Janet & Martin Meza, Edgar Ocampo, Charles Schueler, Cez & Tom Totton, Tom Whittemore, Pat Forgey & Jerry Wilson, and Andre Yew showed the sky to **502** guests, helped by Ken Kihlstrom.

OUTREACH EVENTS

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.

Friday, October 6, 7 PM *** NOTE CHANGE OF VENUE ***

Quick planetarium show, then at 7:30, our monthly meeting in Farrand 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 via Zoom from New York will be Bob Berman, author and columnist at Astronomy Magazine. His topic is "Where in the Universe?" - looking at how discoveries since 1998 have given us a totally new understanding of the cosmos.

SATURDAY, OCTOBER 14, SETUP 7 AM

70% partial solar eclipse viewing at Camino Real Marketplace, in the plaza by the theater, from 8 AM to Noon. See celestial mechanics in action through safely filtered telescopes and eclipse glasses.

SATURDAY, OCTOBER 14, 5 PM

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

SATURDAY, OCTOBER 14, SETUP 6:30 PM

Monthly Public Star Party at SBMNH, next to Palmer Observatory, 7:30 to 10 PM.

FRIDAY, OCTOBER 20, SETUP 7 PM

Monthly Public Telescope Night at Westmont, at their Keck Observatory, next to the athletic fields. Please help out if you're not at the campout!

TUESDAY, OCTOBER 24, SETUP 7 PM

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

FROM THE PRESIDENT

Jerry Wilson

Recent announcements from the James Webb Space Telescope (JWST) team have claimed galaxies in the very early universe are far more advanced, mature, and evolved than they ought to be. But that

might be because we've been systematically overestimating the distances of those galaxies - as new research demonstrates.

Measuring distances in space is a tricky business. It's not always easy to discern whether a bright and/or large galaxy is relatively close, or whether it's physically large and bright.

Instead of directly measuring distances to extremely distant galaxies, astronomers try to determine their redshifts. There are two ways astronomers measure redshift:

1. Photometric Method (isn't all that accurate, but quick and dirty)
2. Spectroscopic Method (longer, more complicated, much more accurate)

Researchers have found that photometric redshifts were biased to be higher than the spectroscopic ones.

Overall, photometric redshifts had to be toned down by roughly one standard deviation. This means that when the photometric redshifts were reported along with their uncertainties, the true redshift lies near the lower end of that uncertainty range, not the middle, as we would expect with a bunch of random uncertainties.

This is not a new phenomenon, researchers pointed out. In fact, it's something the great astronomer Sir Arthur Eddington first pointed out in 1913 in the context of surveys of distant stars. We expect photometric measurements to be imprecise, but in a random way; roughly half the galaxies should show a redshift that's too large, and the other half too low.

But since JWST is probing the extremely early universe and the first generation of galaxies to appear on the cosmic scene, more galaxies exist closer to us than farther away. This means more chances exist for which galaxies could be biased high rather than low, and so our overall samples will tend to be biased.

It's unclear at this stage how these more refined redshift measurements will change our understanding of the early universe, and especially how it will impact our view of those young yet mature galaxies. But, this result shows exactly how science is supposed to work. Over time, it's always

Careful, always cross-checking, and always refining. Or taken another way, avoid jumping to conclusions. You may have to walk back!

IN MEMORIAM (we hope)
by Archibald Parsec

Our club was saddened to learn this week of the death of one of our most valued members, Someone Else. Someone's passing creates a vacancy that will be difficult to fill. Else has been with us for many years and for every one of those years, Someone did far more than a normal person's share of the work. Whenever there was a job to do, an outreach to participate in, or a meeting to attend, one name was on everyone's list, "Let Someone Else do it." Whenever leadership was mentioned, this wonderful person was looked to for inspiration as well as results; "Someone Else can be club president/vice president/treasurer/secretary." Someone Else was a wonderful person; sometimes appearing superhuman. Were the truth known, everybody expected too much of Someone Else. Now Someone Else is gone! We wonder what we are going to do. Someone Else left a wonderful example to follow, but who is going to follow it? Who is going to do the things Someone Else did? When you are asked to help this year, remember — we can't depend on Someone Else anymore.

2024 CALENDARS!

Pat McPartlin

Back by popular demand are the Astronomy Calendars! Pat McPartlin, SBAU Merch Manager, will have them at the SBAU meeting on Friday, October 6, 2023. Each costs a bargain price of \$10. That's lower than you'll find anywhere in town for such beautiful astronomical photos. So buy several! Christmas is coming! Pat will take cash (exact change is most appreciated!), or you can make your check payable to "SBMNH". Happy New Year!

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OCTOBER 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6 LQ MOON "HYBRID" AU MONTHLY MEETING 7PM	7
8	9	10	11	12	13	14 NEW MOON SOLAR ECLIPSE VIEWING 7AM- 12PM ZOOM PLANNING MEETING 5PM STAR PARTY 6:30PM
15	16	17	18	19	20 AU CAMPOUT WESTMONT PUBLIC STAR PARTY 7PM	21 FQ Moon AU Campout
22 AU Campout	23	24 "TELESCOPE TUESDAY" AT CAMINO REAL MARKETPLACE 7PM	25	26	27	28 FULL MOON
29	30	31				