



# AU AstroNews

## The Newsletter of the Astronomical Unit

February 2026

Sponsored by the Santa Barbara Museum of Natural History



*Krissie Cook hosts an information table at National Astronomy Day. Photo credit: Tom Totton.*

### **OUTREACH SUMMARY**

SBAU/SBMNH volunteers Brandy Ackerman, Andy Allen, Tim Crawford, Joe Doyle, Tessa Flanagan, Ronnie Herron, Sean Kelly, Ila Jade Komasa & Quasars, David Larson, Mike Lawson, Pat & Chuck McPartlin, Mary Migrant, Janet & Martin Meza, Javier Rivera, Michael Robertson, Maggie Romero, Tom Totton, Chuck Watson, Tom Whittemore, Lee Wilkerson, and Andre Yew showed cool stuff in the sky to 674 people, helped by Jen Gee & students.

*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](mailto:rcoulter@sbnature2.org)>. It's quick and painless.*

### **OUTREACH EVENTS**

Schools are ramping way up! Come out and help if you can.

Also note the change in the Zoom planning meeting scheduling going forward, now on the second Sunday of the month at 4:30 PM.

### **WEDNESDAY, FEBRUARY 4, SETUP 5:30 PM**

Telescopes for an Astronomy Night at Santa Ynez Valley Charter School, 1224 Tyndall Street in Santa Ynez.

### **THURSDAY, FEBRUARY 5, SETUP 5 PM**

Telescopes for Science Night at Brandon School, 195 Brandon Dr, Goleta. Dinner for volunteers.

### **FRIDAY, FEBRUARY 6, 6 PM**

AU monthly meeting in Farrand Hall at SBMNH. SBAU merchandise sales at 6 PM. Quick planetarium show at 6:30, AU business meeting at 7, then at 7:30, our speaker will be UCSB Physics graduate student Joaquin Becerra Espinoza on Dark Matter Under the Gravitational Lens. We end promptly at 9 PM.

### **SUNDAY, FEBRUARY 8, 4:30 PM \*\*\* NOTE DATE AND TIME CHANGE \*\*\***

Monthly AU planning meeting via Zoom. Watch your email for the link.

### **WEDNESDAY, FEBRUARY 11, SETUP 5 PM**

Telescopes for an Astronomy Night at Cleveland Elementary School, 123 Alameda Padre Serra. We set up down on the blacktop of the playground, entered via a gate at the southwest side of the parking lot.

### **THURSDAY, FEBRUARY 12, SETUP 5 PM**

Telescopes for STEAM Night at Santa Ynez Elementary School, 3525 Pine Street. We set up in their central plaza.

**SATURDAY, FEBRUARY 14, SETUP 6:30 PM**

Monthly public star party at SBMNH, by the Palmer Observatory. Bring a Valentine!

**TUESDAY, FEBRUARY 17, SETUP 7 PM**

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

**THURSDAY, FEBRUARY 19, SETUP 4:30 PM**

Telescopes for Hope School Science Night, 3970A La Colina in Santa Barbara.

**FRIDAY, FEBRUARY 20, 6 PM**

Monthly public telescope night at Westmont's Keck Observatory, next to the athletic fields.

**SUNDAY, FEBRUARY 22, 11 AM TO 4 PM**

Museum Free Day. Come out with a solar scope by the observatory.

**WEDNESDAY, FEBRUARY 25, SETUP 4:30 PM**

Telescopes for Science Night at Mountain View School, 5465 Queen Ann Lane in Noleta. Food for volunteers.

**THURSDAY, FEBRUARY 26, SETUP 4:30 PM**

Telescopes for Science Night at Ellwood School, 7686 Hollister Avenue in Goleta. We set up on the blacktop out back. Pizza for volunteers.

**FROM THE PRESIDENT**

*Jerry Wilson*

New research represents an intriguing attempt to solve three cosmological puzzles with one mechanism, Dark Stars. The puzzles are (1) the surprising overabundance of supermassive black holes in the early universe, (2) the unexpected existence of "blue monster" galaxies, and (3) the so-called "little red dots" scientists have been finding.

Dark stars are hypothetical objects that are proposed to have existed in the early universe. Rather than being powered by nuclear fusion, as normal stars are, dark stars are thought to have been powered by the annihilation of dark matter particles. "Dark" refers to that source of these stars' energy; they

would have, in fact, been incredibly bright in terms of photons.

If dark stars existed, they would have been capable of forming in the universe before ordinary stars could have formed. When ultradense cores of dark matter are exhausted, it is theorized that dark stars could collapse to form the massive "seeds" for supermassive black holes. These seeds would be much more massive than the black holes formed when even the most massive stars run out of fuel for nuclear fusion. This, coupled with the fact that dark stars could have existed before normal stars, would allow supermassive black holes to form much faster than the standard chain of black hole mergers thought to create supermassive black holes. That could explain how the JWST has been able to detect a large population of supermassive black holes in the universe less than 1 billion years after the Big Bang.

Those black holes aren't the only unexpected things the JWST has been detecting in the early universe. Also detected are "Blue Monsters" - ultra-compact and incredibly dense galaxies that lack an abundance of dust.

Blue monsters are galaxies that no cosmological simulation or model of the formation of the earliest galaxies had predicted the existence of prior to the era of the JWST. These blue monsters may not be galaxies at all, but are instead incredibly luminous dark stars that, because of their brightness, are being mistaken for entire galaxies with populations of stars packed into a region no wider than a few hundred light years.

An LRD is an entirely new class of cosmic objects in the early universe that appear to have disappeared before the cosmos was around 2 billion years old. Little red dots, though much dimmer than blue monsters, are also notable for how compact they are, requiring an almost impossibly dense packing of stars, if they are indeed galaxies. The other puzzling characteristic of little red dots is they emit weakly in ultraviolet light and don't seem to emit X-rays at all. The collapse of dark stars, that have exhausted their dark matter, could result in black

holes that are still surrounded by layers of stellar material and that could have the effect of partially obscuring ultraviolet light and completely obscuring X-ray emissions in a way that the dust haloes of galaxies alone cannot. For now, dark stars remain purely hypothetical, though some observational evidence is beginning to emerge. The results are in a paper published in December 2025 in the journal *Astrophysics and Cosmology at High Z*.



Sunset at Hollister Ranch. Photo credit: Charles Schueler.

*“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 1934-2025

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

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FEBRUARY 2026						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 FULL MOON	2	3	4 SANTA YNEZ CHARTER 5:30PM	5 BRANDON SCHOOL 5PM	6 AU MONTHLY MEETING 6PM	7
8 ZOOM PLANNING MEETING 4:30PM	9 LQ MOON	10	11 CLEVELAND ELEMENTARY 5PM	12 SANTA YNEZ ELEMENTARY 5PM	13	14 SBMNH STAR PARTY SETUP 6:30PM
15	16	17 NEW MOON CAMINO REAL MARKETPLACE 7PM	18	19 HOPE SCHOOL 4:30PM	20 WESTMONT 6PM	21
22 SBMNH FREE DAY 11AM - 4PM	23	24 FQ MOON	25 MOUNTAIN VIEW SCHOOL 4:30PM	26 ELWOOD SCHOOL 4:30PM	27	28