



AU AstroNews

The Newsletter of the Astronomical Unit

March 2020

Sponsored by the Santa Barbara Museum of Natural History



Pat and Chuck pose for a photo before an outreach at Hollister Ranch. Photo credit: Tom Totton.

MARCH GENERAL MEETING

Our March meeting speaker will be SBAU member Krissie Cook. Krissie Cook is a long-time astronomy educator and a NASA Solar System Ambassador. She fell in love with space as a high school student and never looked back. In addition to leading outreach activities for NASA, she is a planetarium lecturer at the Santa Barbara Museum of Natural History and an astronomy instructor for SBCC's School of Extended Learning. She is also proud to be the astronomy advisor for the local chapter of the Girl Scout Astronomy Club. She summarizes the theme of her talk: "With four spacecraft from four launching to Mars in the next few months, we hope to find out more than ever about Earth's neighbor. From orbiters to rovers to

helicopters, we'll be studying the Red Planet in new and exciting ways."

OUTREACH SUMMARY

AU volunteers Farshad Barman, Krissie Cook, Raf Cottom, Tim Crawford, Tessa Flanagan & Duff Kennedy, Ruben Gutierrez, Sean Kelly, Bryan McGuffin, Pat & Chuck McPartlin, Janet & Martin Meza, Bonnie & Bruce Murdock, Isabelle Navar, Peggy O'Rork, Charlene Huston & John Pritcher, Javier Rivera, Diane & Russell Ruiz, David Salvia, Charles Schueler, Tom Totton, Matthew Walton, Tom Whittemore, and Patricia Forgey & Jerry Wilson showed the sky to 1556 viewers last month.

MARCH OUTREACH EVENTS

Here's the schedule so far for March. Remember, the events are subject to change and cancellation, so for the latest updates, contact Chuck at 964-8201 or macpuzl@west.net.

The Telescope Workshop meets most Tuesday evenings at 7:30 PM at the Broder Building at SBMNH. Contact Tim Crawford at tcrawf3@cox.net for information.

Listen to the AU on the radio at KZSB 1290 AM at 9 AM on the second and fourth Monday of each month. Here are the events scheduled so far for the month.

MONDAY, MARCH 2, SETUP 5 PM

Telescope for Night Under The Stars (NUTS) at Santa Ynez Elementary School, 3525 Pine Street in Santa Ynez. This is the school on the western edge of the parcel, by Calzada Avenue. We set up in their central courtyard. Food for volunteers.

WEDNESDAY, MARCH 4, SETUP 4:30 PM

Telescopes for Science Night at Monroe School, 431 Flora Vista Drive, on the Mesa. Pizza for volunteers.

THURSDAY, MARCH 5, SETUP 5 PM

Telescopes for Science Night at Santa Barbara Charter School, on the east end of the campus of Goleta Valley Junior High, 6100 Stow Canyon Road in Goleta.

FRIDAY, MARCH 6, 7 PM

Monthly AU meeting in Farrand Hall at SBMNH. Momstronomer Krissie Cook will be our speaker, and the topic will be future Mars exploration.

SUNDAY, MARCH 8 - DAYLIGHT SAVING TIME STARTS!

WEDNESDAY, MARCH 11, SETUP 7 PM

Telescopes for an astronomy night at Monte Vista School, 730 N Hope Avenue in Santa Barbara. We set up on the playground on the north side.

THURSDAY, MARCH 12, SETUP 4:30 PM

Telescopes for Science Night at El Camino School, 5020 San Simeon Drive in Goleta. Pizza for volunteers.

SATURDAY, MARCH 14, 6 PM

AU planning meeting in the classroom outside Javier's office at SBMNH. All members are welcome to help plan your club's activities.

SATURDAY, MARCH 14, 8 PM

Monthly Public Star Party at SBMNH, next to Palmer Observatory. Girl Scouts.

WEDNESDAY, MARCH 18, SETUP 6:30 PM

Telescopes for an Astronomy Night at Goleta Valley Junior High School, 6100 Stow Canyon Road. We set up on the playground blacktop on the west side of campus,

THURSDAY, MARCH 19, 7:50 PM - VERNAL EQUINOX - IT'S SPRING!

FRIDAY, MARCH 20, 7 PM

Monthly Public Telescope Night at Westmont College observatory, next to the baseball field.

SATURDAY, MARCH 21, SETUP 6:30 PM

Telescopes for a star party at Los Flores Ranch Park, in Santa Maria at 6245 Dominion Road. Setup entrance (with signs) will be up Dominion a bit north of the main entrance. Dark skies!

TUESDAY, MARCH 24, 7 PM

Telescope Tuesday at the Camino Real Marketplace in Goleta. We set up in the plaza by the theater.

SATURDAY, MARCH 28, SETUP 6 PM

Telescopes at the Ritz-Carlton Bacara for Earth Hour. We set up on the bluff by the Angel Oak Restaurant.



FRIDAY, JUNE 5, 2020, SBAU POTLUCK!

Pat McPartlin, Potluck Coordinator

Just around the corner is the June 5, 2020, potluck! This year, by popular request, it will be held again at the Oak Tree area, by the Mission Creek bridge. Just look for the tables. I will send around the Sign-up list at the March, April, and May meetings. Bring your favorite dish for 6 people. The club will provide plates, forks/knives/spoons, napkins, and bottled water. We will eat at 6 PM, so come early to find a place and mingle. Clean-up will be at 7:30 PM, followed by a planetarium show at 8 PM. Mark your calendars! Also, mark your containers and utensils with your name, and be sure you take home what you brought! In prior years, some platters and utensils have been unclaimed.

From the President

Jerry Wilson

A new Einstein equation, sort of, may hold the key to uniting quantum mechanics and gravity, according to an article in Science News for August 17, 2016 by Tom Siegfried. The equation is $ER=EPR$. The letters, however, refer to paper authors and not variables. E is Albert Einstein, R is Nathan Rosen, and P is Boris Podolsky.

The Einstein-Rosen paper published in 1935 described, for the first time, Einstein-Rosen bridges, also commonly referred to as wormholes. The Einstein-Podolsky-Rosen paper, also published in 1935, articulated quantum entanglements, paradoxical puzzles about the nature of reality. For

decades nobody seriously considered the possibility that the two papers had anything to do with one another. But in 2013, physicists Juan Maldacena and Leonard Susskind proposed that in some sense, wormholes and entanglement describe the same thing:

<https://www.ias.edu/ideas/2013/maldacena-entanglement>

In a recent paper, Susskind has spelled out some of the implications of this realization. Among them: understanding the wormhole-entanglement equality could be the key to merging quantum mechanics and general relativity. Details of the merger would explain the mystery of entanglement, that spacetime itself could emerge from quantum entanglement, and that the controversies over how to interpret quantum mechanics could be resolved in the process.

“ER=EPR tells us that the immensely complicated network of entangled subsystems that comprises the universe is also an immensely complicated (and technically complex) network of Einstein-Rosen bridges,” Susskind writes. “To me it seems obvious that if ER=EPR is true, it is a very big deal, and it must affect the foundations and interpretation of quantum mechanics.”



Tom Totton successfully imaged the International Space Station crossing the full moon.

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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 rates:

Single = \$20 Family = \$25

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March 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 SANTA YNEZ ELEMENTARY 5PM	3	4 MONROE SCHOOL 4:30PM	5 SANTA BARBARA CHARTER 5PM	6 GENERAL MEETING 7PM	7
8 DST BEGINS TODAY: CLOCKS "SPRING FORWARD"	9 TECH TALK KZSB (AM 1290) 9-10 AM	10	11 MONTE VISTA SCHOOL 7PM	12 EL CAMINO SCHOOL 4:30PM	13	14 PLANNING MEETING 6PM SBMNH STAR PARTY 8PM
15	16	17	18 GOLETA VALLEY JHS 6:30PM	19 VERNAL EQUINOX 7:50PM	20 WESTMONT COLLEGE 7PM	21 LOS FLORES RANCH 6:30PM
22	23 TECH TALK KZSB (AM 1290) 9-10 AM	24 CAMINO REAL MARKETPLACE 7PM	25	26	27	28 RITZ-CARLTON BACARA 6PM
29	30	31				