



AU AstroNews

The Newsletter of the Astronomical Unit

January 2019

Sponsored by the Santa Barbara Museum of Natural History



Bruce Murdock captured this early-morning image of the crescent Moon and Venus rising together over Goleta.

JANUARY GENERAL MEETING

Our January speaker will be professor Omer Blaes from the UCSB Physics Department. Dr. Blaes' talk is titled "How Accretion Disks Energize the Universe." In his own words: "Basically, I'll be talking about how swirling disks of matter, analogous to Saturn's rings but on much, much larger scales, are the sites for planet formation and fireworks that energize whole galaxies and even clusters of galaxies. I'll also talk about recent progress we have been making in figuring out how these structures work."

OUTREACH SUMMARY

Since the last newsletter, AU volunteers Farshad Barman, Jason Barrios, Tim Crawford, Joe Doyle, John Edkins, Tessa Flanagan & Duff Kennedy, Don French, Ruben Gutierrez, Art Harris, Chris Larson, Pat & Chuck McPartlin, Janet & Martin Meza, Bonnie & Bruce Murdock, Edgar Ocampo, Ray Ogella, Peggy O'Rork, Javier Rivera, Diane & Russell Ruiz, David Salvia, Colin Taylor, Tom

Totton, Tom Whittemore, and Pat & Jerry Wilson showed cool astro stuff to 773 visitors.

JANUARY OUTREACH

Here's what's scheduled so far for January.

Remember, events are subject to change, so for the latest updates, contact Chuck at 964-8201 or macpuzl@west.net.

The Telescope Workshop meets on Tuesday evenings (except the third Tuesday) 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.

FRIDAY, JANUARY 4, 7 PM

Our first monthly meeting of the year in Farrand Hall at SBMNH. Dr. Omer Blaes of UCSB will be our speaker.

TUESDAY, JANUARY 8, 7 PM

Telescope Tuesday at the Camino Real Marketplace in Goleta. We set up in the plaza by the theater. **Note that Telescope Tuesday will be the second Tuesday of each month for 2019.**

SATURDAY, JANUARY 12, 5 PM

Monthly AU planning meeting in the classroom outside Javier's office. Come help your club plan our activities for the coming year.

SATURDAY, JANUARY 12, 7 PM

Monthly SBMNH Star Party. Bring a scope, or just come out and mooch some views of the winter sky.

THURSDAY, JANUARY 17, SETUP 5 PM

Telescopes for NUTS (Night Under The Stars) at Santa Ynez Elementary School, 3525 Pine Street in Santa Ynez. This is the campus on the western edge of the school complex. We set up in their central plaza. Spaghetti dinner for volunteers.

FRIDAY, JANUARY 18, SETUP 6 PM

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

SUNDAY, JANUARY 20

Total Lunar Eclipse, with the partial phases lasting from 7:34 PM PST to 10:51 PM PST. Totality is from 8:41 PM PST to 9:43 PM PST.

THURSDAY, JANUARY 24, SETUP 5 PM

Telescopes for Science Night at Brandon School, at 195 Brandon Drive in Goleta. We set up in their central courtyard. Buffet food for volunteers.

FRIDAY, JANUARY 25, SETUP 6 PM

Telescopes for an Astronomy Night at Midland School, at 5100-A Figueroa Mountain Road in Los Olivos. Dark skies!

THURSDAY, JANUARY 31, SETUP 4:30 PM

Telescopes for Science Night at Hope School, 3970 La Colina Road. We set up in the plaza by their auditorium.

From the President

Jerry Wilson

I recently read articles on possible methods to terraform Venus or Mars to make them earthlike enough that they could be self-sustaining for human life and its supporting food pyramid. Of the two, it seems like Mars is more doable, since the chief issue there is to warm up the planet. We have certainly demonstrated that ability here on Earth. Venus would need significant cooling, an achievement we have yet to make.

Mars can be warmed by thickening the atmosphere by steering water rich asteroids to collide with the planet. Icy asteroids and comets are loaded with both H₂O and CO₂. It would take centuries and thousands of asteroids to accomplish, but an Earth pressure atmosphere of CO₂ seems feasible. Then CO₂ tolerant microbes would be introduced to generate the needed oxygen. The problem of no significant magnetic field would still need to be dealt with, else solar particulate radiation would reach the surface and prove hazardous.

Recently I saw an article describing terraforming the Moon as a better option for a first try. It's much closer, only three days away, and smaller, so would take fewer asteroids. But the technique is similar.

Here, however, the ice bearing asteroids would be targeted to hit one side of the Moon so that the imparted momentum would speed up its rotation. By the time enough water and gases have been supplied a day on the Moon would be around 30 to 40 hours.

The same problem of no magnetic field would need to be addressed for the Moon as for Mars. A solar powered magnetic field generator placed in orbit to always be between the Moon and the Sun has been suggested. However, it seems to me no matter what our long-range targets are we should start with terraforming the Earth. More on that next month.



Bruce Murdock's detailed image of the crescent Moon and Venus rising together just before sunup.



"I'm not really sure, folks, but it did look like a sleigh with a herd of reindeer." Photo credit: Tom Totton.



Mike Chibnik captured this wide field image of the Horsehead Nebula in Orion from his home in Rio Vista.



“Not sure, Tim, but I think I see a couple more years of work on this one....” Photo credit: Tom Totton.



“Wow, Ruben! Looks like you owe the club \$10,000!” Photo credit: Tom Totton.

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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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January 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4 GENERAL MEETING 7PM	5
6	7	8 CAMINO REAL MARKETPLACE 7PM	9	10	11	12 PLANNING MEETING 5PM STAR PARTY 7PM SBMNH
13	14 TECH TALK KZSB (AM 1290) 9-10 AM	15	16	17 SANTA YNEZ ELEMENTARY SCHOOL 5PM	18 WESTMONT COLLEGE 6PM	19
20 TOTAL LUNAR ECLIPSE	21	22	23	24 BRANDON SCHOOL 5PM	25 MIDLAND SCHOOL 6PM	26
27	28 TECH TALK KZSB (AM 1290) 9-10 AM	29	30	31 HOPE SCHOOL 4:30PM		