



AU AstroNews

The Newsletter of the Astronomical Unit

April 2024

Sponsored by the Santa Barbara Museum of Natural History



Joe Doyle took this shot of a "moon bow" - looking west from Lake Los Carneros.

OUTREACH SUMMARY

Despite the rainy days, but AU volunteers Andy Allen, Melissa Cohen, Tim Crawford, David Feinberg, Tessa Flanagan, Brian Green, Sean Kelly, David Larson, Pat & Chuck McPartlin, Janet & Martin Meza, Bonnie & Bruce Murdock, Charles Schueler, Tom Whittemore, and Lee Wilkerson showed cool stuff in the sky to **1226** people, helped by Dr. Ito and Dr. Kihlstrom at Westmont.

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

Two big events this month - the eclipse on April 8 and Kaleidoscope on April 26. Please help out if you can!

FRIDAY, APRIL 5, SETUP 6:30 PM

Star Party at Los Flores Ranch Park, 6245 Dominion Road in Santa Maria. We enter via a dirt road to the north past the main entrance - look for the sign.

SATURDAY, APRIL 6, 4:30 PM

NOTE CHANGE OF DATE

SBAU Monthly Planning Meeting on Zoom. Watch your email or find the link on the SBAU web page.

SATURDAY, APRIL 6, SETUP 7 PM

NOTE CHANGE OF DATE

Monthly Public Star Party at SBMNH, next to Palmer Observatory, from 8 PM to 10 PM.

MONDAY, APRIL 8, SETUP 9 AM

40% partial solar eclipse viewing at Camino Real Marketplace, in the plaza by the theater, from 10 AM to 12:30 PM. See celestial mechanics in action through safely filtered telescopes and eclipse glasses.

TUESDAY, APRIL 9, SETUP 7 PM

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

WEDNESDAY, APRIL 10, SETUP 7:30 PM

Telescopes for fifth graders at Monte Vista Elementary School, 730 N Hope Ave. We'll set up on their playground blacktop.

FRIDAY, APRIL 12, 7:30 PM

NOTE CHANGE OF DATE AND VENUE

Monthly meeting in the Courtyard Gallery 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 will be Dr. Dave Kary, speaking on the search for extraterrestrial life.

MONDAY, APRIL 15, SETUP 7 PM

Telescopes for the Encina Royale community, in the parking lot of their clubhouse at 250 Moreton Bay Lane in Goleta.

THURSDAY, APRIL 18, SETUP 4:30 PM

Telescopes for Science Night from 5:30 PM to 7:30 PM at Vieja Valley Elementary School, 434 Nogal Drive, Santa Barbara. It won't be dark, so show the Sun, or just talk about astronomy.

FRIDAY, APRIL 19, SETUP 7 PM

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

FRIDAY, APRIL 26, SETUP 4 PM

Telescopes for a large gathering of Girl Scouts for Kaleidoscope, at the Live Oak Campground, 4600 CA-154, enter by the former Rancho San Marcos Golf Course. Early arrival to set up before access is hindered by hundreds of arriving Girl Scouts. Dinner for volunteers.

FROM THE PRESIDENT

Jerry Wilson

Ingenuity has completed its mission and rests quietly in its now permanent home on a hillside on Mars. It nicked the ground and broke the end of one of its rotors on landing. Out of balance as it is, flight is no longer possible. It has left a legacy in showing the flight is achievable in one hundredth of earth's atmospheric density and less than half the gravity. This legacy has shifted the thinking on planetary probe design from surface bound rovers to robotic flyers.

A future rover planned to collect and return soil and rock samples to Earth has been redesigned to incorporate a flyer to collect the sample and deliver

them to a static lander with a cargo launcher to boost them to orbit and then back to Earth. The new method is faster, more efficient, less complicated and cheaper than a rover. Other landers with flyers may soon become commonplace on Mars.

[MAGGIE](#), the Mars Aerial and Ground Intelligent Explorer, has been selected by NASA's Innovative Advanced Concepts (NIAC) program for phase 1 development in January. This means the team behind MAGGIE — hailing from the [Jet Propulsion Laboratory](#), Purdue University, and start-up aerospace company CoFlow Jet — will receive funding to further develop the cutting-edge technology needed to possibly make MAGGIE a reality.

MAGGIE's planned capabilities are impressive. For instance, it would be built to reach Mach 0.25 on a fully charged battery. In Mars' fragile [atmosphere](#), Mach 1 — the speed of sound — is slower than on [Earth](#), and has been measured to be 879.3 kilometers per hour (546.4 miles per hour) at ground level. Therefore, Mach 0.25 at MAGGIE's cruising altitude of 1 kilometer (0.6 miles) is about 210 kph (130 mph). MAGGIE's time spent in the Martian sky will be limited by its solar panels that will only function during the day and require [time](#) to charge up in the morning, but MAGGIE's total range across a Martian year (687 Earth days) would be 16,048 km (9,972 miles).

NEW PRODUCT ANNOUNCEMENT

Ocular Industries of Noleta is proud to announce the April 1 availability of the upgraded version our wildly popular GPS Ambulatory Tripod.

The recent advances in drone and self-driving hardware and software have resulted in significant improvements to our GAT system.

The GAT is a heavy-duty anodized aluminum field tripod, available with or without a deluxe wedge, that incorporates its own built-in GPS receiver and microprocessor control system. A rechargeable

hydrogen fuel cell powers the computer and nine compact but powerful digital stepper motors attached to the sturdy articulated tripod legs.

The tripod is compatible with all commercially available catadioptric, Newtonian, and refractor telescopes. Just attach your scope, and enter the latitude and longitude of your desired observing site. The GAT will then walk your telescope to those coordinates by the most direct route, avoiding obstacles with its optical, infrared, acoustic, and radar sensors, and polar align itself. If it detects cloud cover, it will divert to the nearest clear site. The GAT has an unrefuelled range of 500 miles.

Add a CCD camera and the Starlink networking option, and the GAT will even transmit images back to your cloud storage! True flexible remote observing is finally here.



The UCSB "Physics Circus" entertains with hands-on science at the SB Coastline Christian Academy. Photo credit: Tom Totton.

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AU annual membership rate: \$20	
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The Astronomical Unit

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APRIL 2024						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 LQ MOON	2	3	4	5 LOS FLORES RANCH PARK 6:30PM	6 ZOOM PLANNING MEETING 4:30PM STAR PARTY 7PM
7	8 New Moon CAMINO REAL MARKET PLACE SETUP: 9AM	9 "TELESCOPE TUESDAY" AT CAMINO REAL MARKETPLACE 7PM	10 MONTE VISTA ELEMENTARY 7:30PM	11	12 "HYBRID" AU MONTHLY MEETING SBMNH COURTYARD GALLERY 7:30PM	13
14	15 ENCINA ROYALE COMMUNITY 7 PM	16 FQ MOON	17	18 VIEJA VALLEY SCHOOL 4:30PM	19 WESTMONT PUBLIC STAR PARTY 7PM	20
21	22	23 FULL MOON	24	25	26 LIVE OAK CAMPGROUND 4PM	27
28	29	30 LQ MOON				

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