



AU AstroNews

The Newsletter of the Astronomical Unit

October 2025

Sponsored by the Santa Barbara Museum of Natural History



Chuck tells the story of a space rock to some enthusiasts at a recent Solar Sunday at the SBMNH. Photo: Tom Totton.

ANNUAL AU CAMPOUT

Be sure to RSVP with Events Coordinator Diane Welcenbach at <events@sbaug.org> for the annual campout! The AU campout will take place at the Mohawk Shores group site at Cachuma Lake, with arrival on Friday, October 24 after 1 PM, and checkout on Sunday, October 26 by 1 PM. 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. Keep your receipt if you pay for parking and you will be reimbursed.

If you see a sign saying the camping area surrounding Mohawk Shores, on the East side of the park, is closed, you can ignore it. It's open for us.

We will have a potluck dinner on Saturday at **4 PM** ***** NOTE EARLIER START *****. The potluck will have a catered main dish (tri-tip, chicken, bread, and grilled vegetables).

Unfortunately, the Cachuma Lake Nature Cruises are no longer in operation.

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 Ronnie Herron at <brherron@gmail.com>. Positions and their duties are detailed on the SBAU web page. We need new blood!

OUTREACH SUMMARY

Since the last newsletter, certified SBAU/SBMNH volunteers Brandy Ackerman, Andy Allen, Krissie Cook & Girl Scouts, Tim Crawford, Joe Doyle, Tessa Flanagan, Art Harris, Ronnie Herron, Sean Kelly, Ila Jade Komasa & Quasars, David Larson, Pat & Chuck McPartlin, Janet & Martin Meza, Bruce Murdock, Ron Nixon, Edgar Ocampo, Michael Robertson, Woody Schlom, Sohini Sengupta, Cez & Tom Totton, Chuck Watson, Diane Welcenbach, Tom Whittemore, Jerry Wilson & Pat Forgey, and Andre Yew, helped by David Feinberg and Jen Gee, showed the sky to **1656** guests.

OUTREACH EVENTS FOR OCTOBER

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 3, 6 PM

Doors open for SBAU merchandise sales at 6 PM. Quick planetarium show at 6:30, AU monthly meeting at 7, then at 7:30, our speaker in Fleischmann 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 will be UC Berkeley Distinguished Professor of

Astronomy Alex Filippenko, Ph.D., who was a student member of the Santa Barbara Astronomy Club in the 1970s. His topic will be Black Holes, Supernovae, and the Runaway Universe.

TUESDAY, OCTOBER 7, SETUP 7 PM

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

SATURDAY, OCTOBER 11, 4 PM

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

SATURDAY, OCTOBER 11, SETUP 7 PM

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

TUESDAY, OCTOBER 14, 3 TO 5 PM

As part of National Earth Science Week, it's Earth Observation Day at SBMNH. Join us at the Museum's Palmer Observatory for solar viewing (weather permitting) and activities highlighting what astronomy teaches us about the history and future of planet Earth.

FRIDAY, OCTOBER 17, SETUP 7 PM

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

THURSDAY, OCTOBER 23, SETUP 5 PM

Telescopes for Science Night at Kellogg School, 475 Cambridge Dr, Goleta, on the playground blacktop.

FRIDAY - SUNDAY, OCTOBER 24-26

Annual AU campout at Cachuma Lake.

THURSDAY, OCTOBER 31 HALLOWEEN

Share some eye candy with trick-or-treaters!

FROM THE PRESIDENT

Jerry Wilson

Time is not absolute, as was tacitly assumed by classical physics. There is no common "now" and no common "rate" for the passage of time. An individual experiences time depending on how close

they are to a massive object and the rate they are moving. Time passes slower for someone closer to the Earth than for someone far away from Earth and also passes slower for someone moving faster when compared to a stationary observer.

As an example, we need to apply general relativistic corrections to get our GPS system to give accurate results. When you are in your car and you need to know where you are right now, your navigation system can tell you within about 5 or 10 feet. The satellite and you are in different reference frames and do not experience the same "now" and the same rate of passage of time. The satellite can locate you in the satellite's "now" but it needs to translate that information into your "now."

There are two key differences between the two reference frames due to the satellite being in orbit while you are on the Earth's surface. 1. The satellite is going around the center of the earth at about 18,000 mph, while you, on the surface of the Earth, are going around the center of the Earth at a slower speed somewhere between 1,000 mph to 0 mph hour depending on whether you are at the Earth's equator or at one of the poles. 2. Also you are closer to the Earth (a massive body), so your time is passing slower as viewed by the satellite. Time is slow for the satellite, due to its speed, but time is slow for you because of proximity to Earth. The two corrections are in opposite directions but they don't cancel out. General relativity allows the satellite's "now" to be translated to your "now".

Taking this example to the extreme, let's say you are in a spacecraft heading for the Andromeda Galaxy at 99.9999% the speed of light. Not only will time be dilated, but space will also shrink. It's called the Lorentz-FitzGerald contraction. So even though the galaxy is roughly 2.5 million light years away in a rest frame, you would reach it in a few minutes. Light of course, which travels at the speed of light, does not experience the passage of time. Light arrives at its destination at the same instant it was emitted.

Under Dark Skies

Tom Whitemore

It had been a long time since I saw skies like these. Here, in Southwestern Utah, the Milky Way stretched across the sky from Cassiopeia to the tail of Scorpius - hovering just above the horizon in the south. I didn't bring a telescope for this vacation but I did have my 8x42 "birding" binoculars. Ptolemy's Cluster was a naked-eye object as well as the Butterfly Cluster, M6, early in the evening shortly after the sun had gone down. Just for fun I raised my "bins" to the midsection of Ophiuchus where a line of globular clusters jumped out. I couldn't get any detail in these objects - I didn't expect to - but it was amazing how a very dark sky could shed its starry secrets at such a low power. Moving to the western sky I watched the arc of the Big Dipper point to Arcturus with its deep red light. No twinkling here. The night was ominously steady. Above my head the great globular cluster in Hercules was an easy naked-eye object. Around this time the Andromeda Galaxy had come up in the northeast. In my binoculars it filled the field. Just for fun I jumped across Mirach to the other side of where Andromeda lay and pulled in M33, the Pinwheel Galaxy. A little further away than the Andromeda Galaxy and at a distance of 2.7 Mly, it was faint but easily visible.

To close the night I put my binoculars down and enjoyed all the dark regions in the Milky Way: the Great Rift in Cygnus and all the stippled sections from here to the southern horizon. It was easy to realize how those in truly dark skies detail many of their constellations from where there appear to be no stars.

I probably spent only an hour and a half that evening looking up at the night sky. But it left me with an eternity of memories.

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OCTOBER 2025						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3 GENERAL MEETING 6 PM	4
5	6	7 CAMINO REAL MARKETPLACE 7 PM	8	9	10	11 ZOOM PLANNING MEETING 4 PM STAR PARTY SETUP 7 PM
12	13	14 SBMNH SOLAR 3-5 PM	15	16	17 WESTMONT 7 PM	18
19	20	21	22	23 KELLOGG SCHOOL 5 PM	24 CACHUMA CAMPOUT	25 CACHUMA CAMPOUT
26 CACHUMA CAMPOUT	27	28	29	30	31 HALLOWEEN	