AU AstroNews

The Newsletter of the Astronomical Unit

December **2026** **Sponsored by the Santa Barbara Museum of Natural History**



Setting up for outreach at Refugio this past September. Photo credit: Tom Totton.

Outreach Summary

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.

Since the last newsletter, with cloudy weather, certified SBAU/SBMNH volunteers Andy Allen, Krissie Cook & Girl Scouts, Tim Crawford, Shannon Gerow & Quasars, Art Harris, Ronnie Herron, Sean Kelly, Tessa Flanagan, David Larson, Pat & Chuck McPartlin, Edgar Ocampo, Javier Rivera, Michael Robertson, Charles Scheuler, Tom Totton, Chuck Watson, Diane Welcenbach, Tom Whittemore, and Greg Wittmann showed the sky to 1060 victims. David Feinberg and Jen Gee also helped out.

Outreach Events

Friday, December 4, 6 PM

AU monthly meeting in Farrand Hall at SBMNH. SBAU merchandise sales at 6 PM. Quick planetarium show at 6:30, **AU Elections at 7**, followed our Members' Night speakers: Tim Crawford on questions he's asked at star parties, and Chuck McPartlin on discovering a moon of an asteroid. We end promptly at 9 PM.

Thursday, December 10, 5 PM

SBAU Holiday Party at the Hilton Garden Inn, 6878 Hollister Avenue in Goleta.

Saturday, December 12, setup 6 PM

Monthly Public Star Party at SBMNH, at Palmer Observatory from 7:30 to 10 PM. Possible Geminid meteors.

Sunday, December 13, 4:30 PM

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

Tuesday, December 15, setup 7 PM

Telescope Tuesday at Camino Real Marketplace, in the plaza by the theater. For 2027, Telescope Tuesday will shift to the second Tuesday of each month, to keep up with the Moon.

Friday, December 18, 5 PM

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

Monday, December 21, 12:50 PM PST - Winter Solstice for the Northern Hemisphere

SBAU Holiday Party!

Come join the fun.
Thursday Dec 10, 2026, 5-9PM
Hilton Garden Inn
$50.00 per person
RSVP by Dec 1st, 2026
events@SBAU.org
Bring a white elephant gift!

Exciting Membership News — Renew Early and SAVE!

Dear SBAU Members,

We have some important membership news to share, along with a terrific opportunity to save!

Effective January 1, 2027, annual SBAU membership dues will increase from $20 to $30.

For a limited time, you can renew your SBAU membership at the current $20 annual rate for as many years as you'd like!

Any additional years you purchase will simply be added to your existing membership expiration date, regardless of when your current membership expires.

Your membership helps support SBAU's astronomy programs, educational activities, community outreach, and our shared enthusiasm for exploring the wonders of the universe.

Why wait? Now is the perfect time to renew!

Whether you extend your membership by one year, five years, or even ten, you'll enjoy the same great SBAU membership while protecting yourself against the upcoming dues increase.

Act before December 31, 2026, to take advantage of this special opportunity!

How Far Can One See?

Jerry Wilson

On Nov. 21, 1676, the Danish astronomer Ole Rømer discovered the speed of light. Before he figured it out, scientists thought that light travels instantaneously, or infinitely fast.

Rømer disproved this almost by accident when he was studying Jupiter's moon Io. He was trying to figure out how long it takes Io to orbit Jupiter in hopes of using it as a cosmic clock. He watched Io disappear behind Jupiter and reappear on the other side. He did this over and over every 42 hours for years.

To his surprise, the timing of the eclipses was not consistent. When Earth was closest to Jupiter, the eclipses happened 11 minutes early. Likewise, when the two planets were farthest away, the eclipses were 11 minutes behind schedule.

Rømer figured out the pattern and made an accurate prediction for Io's eclipse on Nov. 9, 1676. Then on Nov. 21, he took his findings to the Royal Academy of Sciences and explained that a finite speed of light must be responsible.

Thanks to Ole we now know we cannot see the present, only the past, at least in a Newtonian world. But due to the Andromeda paradox we can see into other people's past or future, though not our own. As pointed out by Albert we do not share the same 'now', if special relativity is applied to all space and time and not confined to only local events.

Coined by physicists Roger Penrose and David Deutsch, the Andromeda Paradox is a thought experiment that challenges our understanding of simultaneity in special relativity theory.

Here's the setup:

1. Two people, let's say Alice and Bob, walk past each other on Earth. Alice is walking toward the Andromeda Galaxy; Bob is walking away from it.
2. According to relativity, their respective definitions of "now" for events in Andromeda differ by several days—just because of the direction and speed of their movement.
3. So in Alice's present, a decision might have already been made by an alien civilization in Andromeda to invade Earth.
4. But in Bob's present, that decision hasn't been made yet. The same moment in time for them on Earth corresponds to different futures in the Andromeda galaxy. All of this, from just walking in opposite directions.

(In part excerpted from an article by Hanneke Weitering on Space.com)

Sunday at the Palmer

"Please, come in and take a safe look at the Sun." These are the words we greet the public with every Sunday afternoon. And they take the bait. Tim Crawford is normally out in front of the observatory with his 60mm H-Alpha scope where he shows the public the Sun boiling in the red line of Hydrogen. Lots of filaments and prominences and, sometimes, loops of plasma jetting out from the edge of the Sun. A disconnected finger of plasma sticks out of the Sun. "Do you know how big this finger of gas is?" Tim asks. "It's probably ten times the size of the Earth!" "Let me see!" "No. Let me see!" A chorus greets Tim as he moves his ladder in place

for the shorter folks. Inside the observatory David and I show the Sun to the crowd with three telescopes: a live look through the museum's 6" refractor and a pair of smaller telescopes each attached to cameras that project their images onto large screens for all to see. This is especially important for those who might not enjoy easy access - small children and those in wheelchairs. To me the most endearing thing is the possibility that we are making a difference in peoples' lives - that what one little look at our special star just might last a lifetime.



Sun's up! Come and take a look! Photo credit: Tom Totton.



Nighttime outreach at the Palmer Observatory. Photo credit: Tom Totton.

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December 2026						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
		1	2	3	4 Monthly Meeting 6PM	5
6	7	8	9	10 Holiday Party at the Hilton Garden Inn 5PM	11	12 SBMNH Star Party Setup 6PM
13 Planning Meeting On Zoom 4:30PM	14	15 Camino Real Marketplace 7PM	16	17	18 Westmont 5PM	19
20	21 Winter Solstice	22	23	24	25	26
27	28	29	30	31		