AU AstroNews

The Newsletter of the Astronomical Unit

June **2025** **Sponsored by the Santa Barbara Museum of Natural History**

Henk sets up an SBAU Dobsonian for a Second Saturday museum outreach. Photo credit: Tom Totton.

Outreach Summary

Thanks to everyone that volunteered at Astronomy Day and the Museum Astro Fest!

Since the last newsletter, certified AU volunteers Brandy Ackerman, Andy Allen, Krissie Cook, Tim Crawford, Joe Doyle, Tessa Flanagan, Brian Green, Art Harris, Ronnie Herron, Ila Jade Komasa & Quasars, David Larson, Pat & Chuck McPartlin, Bruce Murdock, Edgar Ocampo, Javier Rivera, Michael Robertson, Cez & Tom Totton, Chuck Watson, Diane Welcenbach, Tom Whittemore, and Pat Forgey & Jerry Wilson, plus helpers Jen Ito & students and David Feinberg showed cool stuff in the sky to **1808** people, despite May Gray!

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

Tuesday, June 3, setup 7 PM

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

Friday, June 6, 5 PM

Annual summer potluck dinner at the Broder Building.

Saturday, June 7, setup 7 PM

Slide show for campers at Lopez Lake, at the nature theater at the marina. **They are offering a camping space - Contact Chuck if you can come with a scope, and then camp overnight.**

Friday, June 13, setup 8 PM

Telescopes for campers at Refugio State Beach. We set up in the day use parking lot, at the SW side of the campground.

Saturday, June 14, 4 PM

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

Saturday, June 14, setup 7:30 PM

Monthly Public Star Party at SBMNH, from 8:30 PM to 10 PM at Palmer Observatory.

Friday, June 20, setup 7 PM

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

Friday, June 27, setup 8 PM

Telescopes for campers at Refugio State Beach. We set up in the day use parking lot, at the SW side of the campground.

Saturday, June 28, setup 8 PM

Telescopes for a star party under dark skies at the Sedgwick Reserve, at the end of Brinkerhoff Avenue in the Santa Ynez Valley. **Contact Chuck if you are interested in bringing a scope.**

FROM THE PRESIDENT

Jerry Wilson

One aspect of our hobby which I enjoy is astro imaging. Frequently also called astro photography, but I think of that term as applying to the old days when we used film. Astro imaging is digital; no film involved.

Astro photography was fun, but low performance compared to today's results. We took a single image, up to hours long, if you had dark sky available. The exposure was really limited by an effect called reciprocity failure. That is, the response of the film to light was not linear. Doubling the exposure time did not double the density of the negative. One very quickly reached the point of diminishing returns. I used 35 mm and 4x5 sheet film. We developed the film and then printed the image to photo paper, all using wet chemistry. The sensitivity of the film could be enhanced through a process of storing the film in a hydrogen atmosphere before use.

With digital cameras the world opened up to better performance and signal processing software. The two major improvements were linearity of response and the ability to stack images. A linear response means that an amateur could get deep sky images on a par with professionals, in much less time than with film. Stacking allows us to take many shorter exposures to get one deep sky image and it increases contrast while suppressing image defects or photo bombs like airplanes.

We have now taken another giant step forward with the advent of early AI software. We have AI generated images showing up in politics and on social media, leading the unwary astray. But we also have some phenomenal new software tools to help process our astro images. I have downloaded and am learning three plug ins to PixInsight, a popular image processing software. These were developed in the last few years by a software engineer, Russ Croman. They are StarExterminator, NoiseExterminator, and BlurExterminator. The results I've seen are very impressive.

AI programs result from learning programs. The engineer does not write the actual program. The program learns to find its own algorithm to achieve a given task. In the case of BlurExterminator, for example, the computer received a sharp well-focused astro image and a blurred version of the same image. It then explored, on its own, to develop the final program. The learning program ran for about a month, and the results are stunning.

ARTS CORNER

Tom Whittemore

How did you first learn about the stars? Where you could find them in the night sky and how they might come up in the same spots year after year? My brother, Paul, gave me my first glimpse of this seasonal sky when I was very young. One summer he borrowed a homemade 6" reflecting telescope that had, as its counterweight, a washing machine's agitator. And, with this relic, Paul pointed to the top of the sky and into the Keystone of Hercules to show me the great globular cluster, M13. He told me that the light I saw for the first time had come a long way. It began its journey 26,000 years ago but it was likely that the light I was seeing was from stars that were probably still there. Later he pointed to M57 in Lyra, the Harp. He called this object the Smoke Ring Nebula and told me that this light was from a different source. It was from a star which, like our Sun will eventually become, was dying and shedding its atmosphere into space.

Paul was a gifted mathematician - a topologist - and he thought about things very abstractly. But, that one night during an Indianapolis summer, he woke in me an interest that has lasted all these days. And he left with me a poem that would last a lifetime of looking up at the night sky.

"First Regulus gleams on the view.
Arcturus, Spica, Vega blue.
Antares, Altair, the Goat's Head. The Square.
Fomalhaut, Aldebaran, the Belt aglow.
Then Sirius most fair."

Tim Crawford looks for another object to show the public at a SBMNH outreach. Photo credit: Tom Totton.

Javier takes aim a faint object at a SBMNH star party. Photo credit: Tom Totton.

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JUNE 2025						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
1	2	3 FQ Moon Camino Real Marketplace 7PM	4	5	6 Annual SBAU Potluck 5PM	7 Lopez Lake 7PM
8	9	10	11 Full Moon	12	13 Refugio State Beach 8PM	14 Planning 4PM Star Party 7:30PM
15	16	17	18 LQ Moon	19	20 Westmont 7PM	21
22	23	24	25 New Moon	26	27 Refugio State Beach 8PM	28 Sedgwick Reserve 8PM
29	30					