



AU AstroNews

The Newsletter of the Astronomical Unit

December 2019

Sponsored by the Santa Barbara Museum of Natural History



Young makers are captured by technology at the Marymount Maker Fair. Photo credit: Tom Whittemore.

DECEMBER GENERAL MEETING

Our December meeting will begin with the annual elections for officers and appointed positions. Following this, several club members will present short talks on what they have done over the year in astronomy. At press time four members have signed up: Tim Crawford will show off his hand-crafted 8" Newtonian telescope and Bruce Murdock will talk about his visit to the radio telescope facility near Bishop at the base of the White Mountains; Farshad will enlighten the club on how to solve the differential equations which govern planetary orbits and Jim Williams will present his 3D model of Mars' Valles Marineris.

OUTREACH SUMMARY

Since the last newsletter, AU outreaches Brandy Ackerman, John Boyd, Dave Brehl, Mike Chibnik, Krissie Cook, Rafael Cottom, Tim Crawford, Joe Doyle, Mike Farris, Tessa Flanagan & Duff Kennedy, Ruben Gutierrez, Art Harris, Baron Ron Herron, Caitlin Judd & Kelly Metcalf & Skyler Metcalf, Sean Kelly, Ken Kihlstrom, Chris Larson, Pat & Chuck McPartlin, Janet & Martin Meza, Bruce Murdock, Edgar Ocampo, Peggy O'Rork, Javier Rivera, Diane & Russell Ruiz, David Salvia, Charles Schueler, Kris Torres, Tom Totton,

Matthew Walton, Maureen O'Rourke & Tom Whittemore, Pat Forgey & Jerry Wilson, and Andre Yew showed the night sky to 1122 happy viewers.

DECEMBER OUTREACH EVENTS

Here are the AU events scheduled so far for December. Events are subject to change, so to get the latest information on schedules, or directions, just contact Chuck at 964-8201 or macpuzl@west.net

The Telescope Workshop meets most Tuesday evenings 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. Here are the events scheduled so far for the month.

FRIDAY, DECEMBER 6, 7 PM

Monthly AU meeting in Farrand Hall at SBMNH. Elections and Members Night.

SATURDAY, DECEMBER 7, SETUP 6 PM

Telescopes for the Ritz-Carlton Bacara. We set up on the bluff by the Angel Oak Restaurant.

TUESDAY, DECEMBER 10, SETUP 7 PM

Telescope Tuesday at Camino Real Marketplace in Goleta. We set up in the plaza next to the theater, under the Christmas tree. **For 2020 we move to the fourth Tuesday of the month.**

WEDNESDAY, DECEMBER 11, GATHER AT 6 PM

Annual AU Holiday Party at Harry's Plaza Cafe, 3313 State Street.

THURSDAY, DECEMBER 12, SETUP 5:30 PM

Telescopes for Cleveland Elementary School, at 123 Alameda Padre Serra. We'll set up on their playground, accessed through a gate at the W edge of the entry parking lot.

FRIDAY, DECEMBER 13, SETUP 6 PM

Telescopes for the Ritz-Carlton Bacara. We set up on the bluff by the Angel Oak Restaurant.

SATURDAY, DECEMBER 14, 5 PM

AU planning meeting, in the classroom next to Javier's office.

SATURDAY, DECEMBER 14, 7 PM

Monthly Public Star Party at SBMNH. Bring a scope and have fun showing goodies in the sky outside Palmer Observatory, or just show up and enjoy looking at them.

MONDAY, DECEMBER 16, SETUP 6 PM

Telescopes for an Astronomy Night at Santa Barbara Junior High School, 721 East Cota Street. We set up behind the Marjorie Luke Theater, with access through the gate where East Ortega Street dead ends into North Quarantina Street.

FRIDAY, DECEMBER 20, 7 PM

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

SATURDAY, DECEMBER 21, SETUP 6 PM

Telescopes for the Ritz-Carlton Bacara. We set up on the bluff by the Angel Oak Restaurant. Winter solstice for the Northern Hemisphere at 8:19 PM.

SATURDAY, DECEMBER 28, SETUP 6 PM

Telescopes for the Ritz-Carlton Bacara. We set up on the bluff by the Angel Oak Restaurant.

FROM THE PRESIDENT

Jerry Wilson

I am just back from attending the Advanced Imaging Conference in San Jose. This is a conference run by amateur astronomers primarily for astro-imagers. It's a three-day affair; Friday, Saturday, and Sunday, every two years. The next one will be in 2021.

Friday was filled with workshop demonstrations and lectures. These included how to use Pixinsight, given by Warren Keller, a collection of handy techniques by Adam Block, how to bring out faint structure such as dark nebulae by Rogelio Bernal Andreo, optimizing guiding with PHD2, by Andy Galasso, and Telescope Collimation using Artificial Intelligence, by Gaston Baudat to highlight a few.

All the presentations and more will be uploaded to the AIC library and available in the near future to attendees. Vendors displayed their wares during intermission (or if you cut class). There's lots of new stuff coming out to make imaging easier and in general better. Computer control of your scope and camera has passed through the desk top and laptop eras and is now entering the use of small computers placed next to the eyepiece and coupled through the internet to one's cell phone or tablet.

CMOS technology continues to improve with several CCD makers switching to CMOS exclusively. Canon has a new camera for astro-imagers called the EOS Ra - it is a full frame mirrorless design with the filter altered to admit 4x more H-alpha radiation. Focal plane format is 30.3 megapixels. I did get a deal on an Atik cooled one-shot color CMOS camera suitable, I hope, for outreach. I spotted a fellow with an SBAU sweatshirt. Turns out it was a new member of our club interested in learning imaging. I told him about our workshop and hope to see him there.



"I'm afraid it will take you eons to reach Proxima Centauri by bicycle, ma'am." Photo credit: Tom Totton.

FOMALHAUT

Tom Whittemore

Our star story for December is about the brightest star in the constellation, Piscis Austrinus, the Southern Fish. Sometimes called the Loneliest Star, Fomalhaut lies in a section of the sky where few bright stars shine. It's famous in astronomical science because it is known as the first star found with a visible exoplanet. In early September it

appears opposite the Sun in the southern part of the sky. And, because of this, it shines in the sky all night during the autumn months in the Northern Hemisphere (all night in spring for the Southern Hemisphere).



Drawing above taken from the Stellarium program. It shows the location of Fomalhaut earlier in the fall when Jupiter and Saturn dominated the southern sky.

Fomalhaut reaches its highest point – crosses the Meridian – at about 7PM on the 15th of November. Located 25 light-years from us and having approximately the mass of our Sun, Fomalhaut shines against a nearly featureless section of the Milky Way: when you look in the direction of Fomalhaut, you are looking away from the plain of our galaxy and into the darkness of space. So, while you are enjoying your view of this lonely star at its peak altitude, turn around and point your gaze to the Northeast. Here you will see Capella, the Goat Star in Auriga, rising with countless open clusters that usher in the Winter Milky Way.



“That’s right, Max. A front-row seat to ‘Dancing with the Stars’!”
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!

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Single = \$20 Family = \$25

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December 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6 GENERAL MEETING 7PM	7 RITZ-CARLTON BACARA 6PM
8	9 TECH TALK KZSB (AM 1290) 9-10 AM	10 CAMINO REAL MARKETPLACE 7PM	11 ANNUAL SBAU HOLIDAY PARTY 6PM	12 CLEVELAND ELEMENTARY 5:30PM	13 RITZ-CARLTON BACARA 6PM	14 PLANNING MEETING 5PM SBMNH STAR PARTY 7PM
15	16 SB JUNIOR HS 6PM	17	18	19	20 WESTMONT COLLEGE 7PM	21 RITZ-CARLTON BACARA 6PM
22	23 TECH TALK KZSB (AM 1290) 9-10 AM	24	25	26	27	28 RITZ-CARLTON BACARA 6PM
29	30	31				