



AU AstroNews

The Newsletter of the Astronomical Unit

November 2018

Sponsored by the Santa Barbara Museum of Natural History



Bruce Murdock captured this amazing image of the recent Falcon9 launch.

NOVEMBER GENERAL MEETING

Our November speaker will be Tobi Schmidt, a Ph.D. student at the Max Planck Institute for Astronomy in Heidelberg. His talk this evening is titled "Spectroscopy: Telling you how the Universe really works!"

OUTREACH SUMMARY

Since the last newsletter, AU outreaches Jason Barrios, Krissie Cook, Tim Crawford, Joe Doyle, Dora Drake, John Edkins, Mike Farris, Tessa Flanagan & Duff Kennedy, Ruben Gutierrez, Baron Ron Herron, Sean Kelly, Ken Kihlstrom, Pat & Chuck McPartlin, Janet & Martin Meza, Bruce Murdock, Edgar Ocampo, Peggy O'Rork, Javier Rivera, Russell Ruiz, David Salvia, Tom Totton, Matt Walton, John West, Tom Whittemore, Patricia

Forgey & Jerry Wilson, and Andre Yew showed the night sky to 1001 astronomy tourists.

NOVEMBER AU OUTREACH

Here are the outreach events scheduled so far for October. Events are subject to change and cancellation, so contact Chuck at macpuzl@west.net or 964-8201 for the latest information.

The Telescope Workshop meets on Tuesday evenings (except the third Tuesday) 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.

FRIDAY, NOVEMBER 2, 7 PM

Monthly AU meeting in Farrand Hall at SBMNH. Hear about spectroscopy from Tobi Schmidt.

SUNDAY, NOVEMBER 4 - DAYLIGHT SAVING TIME ENDS!

THURSDAY, NOVEMBER 8, SETUP 5:30 PM

Telescopes for a Science Night at Foothill School, 711 Ribera Drive in Goleta. We set up on their blacktop, with entry at the NW corner of the campus.

SATURDAY, NOVEMBER 10, 5 PM

AU Planning Meeting in the classroom outside Javier's office at SBMNH. Come help plan your club's activities.

SATURDAY, NOVEMBER 10, 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.

THURSDAY, NOVEMBER 15, SETUP 5:30 PM

Telescopes for an Astronomy Night at Peabody Charter School, at 3018 Calle Noguera in Santa Barbara. We set up on their blacktop, with entry at the SW corner of the campus.

FRIDAY, NOVEMBER 16, SETUP 6:30 PM

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

TUESDAY, NOVEMBER 20, SETUP 7 PM

Telescope Tuesday at the Camino Real Marketplace in Goleta. We set up in the plaza by the theater.

SATURDAY, NOVEMBER 24, SETUP 6 PM

Telescopes for the Ritz-Carlton Bacara. We set up on the bluff lawn next to the Angel Oak restaurant.

From the President

Jerry Wilson

This short article is about iron in our solar system. Iron is produced in stellar cores and dispersed into space when the star ends its life and explodes. This iron, and other elements, form the building blocks of next generation stars and planets. I'm not distinguishing here between planets and smaller dark objects.

Objects accrete these cast-off dust particles and molecules and form larger bodies. As the body grows, its gravity becomes stronger and two things happen. It pulls itself into a sphere and it heats up on the inside. Becoming hot inside allows molecules to differentiate. That is heavy ones move toward the center to form an iron rich core and lighter ones move toward the surface to form a lighter crust.

The Earth's core is believed to be largely made of iron. It would be nice to study it in detail, but it's around 3,500 miles under foot. The only way to study it is through seismic wave refraction.

But there are also indirect ways to study iron cores. It turns out there are the iron cores orbiting our sun without a crust. The crust appears to have been knocked off through probably spectacular celestial collisions early in the solar system's history. Today we know these leftover cores as the planet Mercury, the asteroid 16 Psyche, and Chuck's heavy rock.

Currently the European Space Agency (ESA) and the Japanese Aerospace Exploration Agency (JAXA) have launched the BepiColombo mission to Mercury on an Ariane rocket from South America. It will be a 7-year flight to Mercury. The instruments will gather information relevant to iron cores in general, such as the Earth's.

NASA is also planning exploration of 16 Psyche with a mission launch date between 2023 and 2025. 16 Psyche made the news in 2017 when it was discovered to be almost pure Ni-Fe and therefore the core of something larger at one time.

Information gained from these two surplus cores will hopefully shed light on the Earth's core. But if you want the information sooner you can ask Chuck for a look at his rock.



"This little tweak should set you up for some serious work in the Southern Hemisphere." Photo credit: T. Totton

Looking Back

Editor's note: We take another look at an inspirational book with an astronomical theme. This month's installment comes from "A Naturalist buys an Old Farm" by Edwin Way Teale. This selection is taken from Chapter 10 – "The Starfield."

Those who leave the city behind and move to the country return not only to the open fields but to the open sky as well. Stars and planets and constellations become companions of the country night. In the clearer air over the darkened fields, they seem to draw close, to burn with greater intensity, to increase into swarming multitudes. No longer do city lights dim their brilliance. Lying in a reclining chair on clear summer nights, looking upward into the face of the open sky, I enjoy a kind of nocturnal counterpart of my hammock in the

woods. Here I watch the heavens as there I watched the treetops. In the darkened sky I see Vega, the star of summer, as Sirius is the star of winter. Over me streams that river of stars, the Milky Way, known to the ancient Chinese as “the little sister of the Rainbow.” As I lie there, during hours when the atmosphere is unusually limpid, the illusion grows that all the stars and constellations are swinging low, are shining almost within reach of an outstretched arm.

Our interest in the night sky above our fields is, no doubt, more poetic than scientific. It is pure enjoyment rather than serious study. We recognize the constellations, the Swan, the Lion, Cassiopeia and Andromeda, Canis Major and Canis Minor, Pegasus, Orion and the Dragon, as acquaintances of ours in the vastness of outer space. We see them move, seasonal and nightly landmarks, across our sky. An hour thus spent under the stars, in the dark of the moon or before its rising, with the heavens alight from rim to rim with the gleam and glitter of planets and constellations and galaxies, is an ethereal experience, a calming prelude to a night of rest.



Martin adjusts his scope for some solar viewing at the Cachuma Campout. Photo credit: Tom Totton.

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November 2018

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