



AU AstroNews

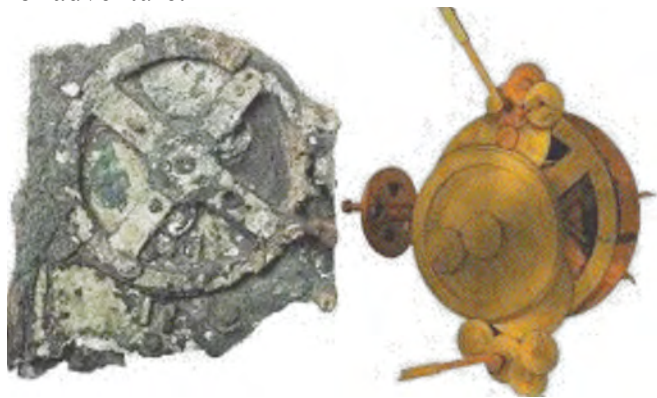
The Newsletter of the Astronomical Unit

October 2014

Sponsored by the Santa Barbara Museum of Natural History

OUR OCTOBER SPEAKER

Our speaker for the October meeting will be Elijah Quetin from the Physics Department at UCSB. Elijah has a strong interest in science history and this evening he will report on the latest about the Antikythera Mechanism – the world's oldest computer, built by Greeks a few centuries BC and rediscovered in the early 20th century. Elijah has studied at the California Institute of Technology, Göttingen University, and UC Santa Barbara, where he is currently a doctoral student in the physics department. His thesis project aims to figure out what happens when black holes eat stars and how we can catch them in the act with the help of the Hubble Space Telescope. He is also currently teaching Astronomy 101 to 130 students at SBCC. Eli studies performance piano in the music department at UCSB. He bakes bread and reads books for leisure, spears fish and climbs mountains for adventure.



OUTREACH SUMMARY

Since the last newsletter, avid AU outreach volunteers Peter Angeloff, Angela Bates, Warren Bitters, Marciano Chan, Adrian Conrad, Krissie Cook, Tim Crawford, Zak Dafaallah, Joe Doyle, Blake Estes, Mike Farris, Ruben Gutierrez, Art Harris, Ken Kihlstrom, Chris Larson, Adrian Lopez, Zanna Lucy, Pat & Chuck McPartlin, Janet & Martin Meza, Bonnie & Bruce Murdock, Max Neufeldt, Edgar Ocampo, Javier Rivera, Curry Sawyer, Colin Taylor, Tom Totton, Chris Ulivo, Tom Whittemore, Paul Winn, and Linda & Harold

Yarbrough showed cool astro stuff to 1544 interested people.

OUTREACH FOR OCTOBER

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.

Because the solar eclipse event, there will be no Telescope Tuesday event at Camino Real Marketplace this month. Telescope Tuesday will move to the fourth Tuesday of the month in November, and for most of 2015.

FRIDAY, OCTOBER 3, 7 PM

Monthly AU meeting in Farrand Hall at SBMNH. Hear a talk about the Antikythera Mechanism.

SATURDAY, OCTOBER 4, 10 AM TO 10 PM

Telescopes on Linden Lawn in Carpinteria for the Avocado Festival. Parking for AU volunteers in the State Beach lot. Tell them you're an AU volunteer at the entry kiosk

WEDNESDAY, OCTOBER 8, 1 AM

Watch the total lunar eclipse from the Westmont Observatory. Penumbra at 01:15, totality from 03:25 to 04:24, penumbra until 06:34. Why sleep when you can watch our shadow on the Moon?

THURSDAY, OCTOBER 9, SETUP 6 PM

Telescopes for NUTS (Night Under The Stars) at Santa Ynez Elementary School, 3325 Pine Street in Santa Ynez.

SATURDAY, OCTOBER 11, 5 PM

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

SATURDAY, OCTOBER 11, 7 PM

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

THURSDAY, OCTOBER 16, SETUP 5 PM

Telescopes for Science Night at Kellogg School, 475 Cambridge Drive in Goleta.

FRIDAY, OCTOBER 17, SETUP 6:30 PM

The monthly Public Telescope Night at Westmont Observatory, next to the baseball field.

SATURDAY, OCTOBER 18, SETUP 7 PM

Telescopes for campers at Refugio State Beach. We set up in the day use parking lot at the southwest corner of the park.

THURSDAY, OCTOBER 23, SETUP 1 PM

Solar scopes for the partial solar eclipse at Camino Real Marketplace, in the plaza by the theater. The Moon will be covering parts of the Sun from about 2:06 to 4:37. Then hang around for dinner and evening telescoping from 7 to 10 PM.

FRIDAY, OCTOBER 24 (AFTERNOON) THROUGH SUNDAY, OCTOBER 26 (MORNING)

Annual AU campout at the Mohawk Shores group campsite at Cachuma Lake. The Saturday dinner will be a catered event at 5:30 PM. The number of cars we are permitted to have with the site is limited, so carpool or come early if you can. If we run out of car permits, and you have to pay at the entrance gate, keep your receipt for reimbursement from the AU.

TUESDAY, OCTOBER 28, SETUP 5 PM

Telescopes for Science Night at Mountain View School, 5465 Queen Ann Lane, from 6 PM to 8 PM. Food for AU volunteers from 5 to 6 PM.

WEDNESDAY, OCTOBER 29, SETUP 6 PM

Telescopes for a campout for Los Olivos Family School at the very dark Sedgwick Reserve, 3566 Brinkerhoff Avenue in the Santa Ynez Valley.

FRIDAY, OCTOBER 31

Halloween! Show the sky to trick-or-treaters wherever you are. Astronomical eye candy won't hurt your teeth!

INFORMATION ON THE CACHUMA LAKE WILDLIFE CRUISES

Be sure to reserve a place if you want to take the cruise on Saturday (10 AM to Noon and 3 PM to 5 PM) or Sunday (10 AM to Noon)(meet at the marina 30 minutes before)! Climb aboard the

"Osprey" for a 2-hour lake tour with a Santa Barbara County Park Naturalist. The cruise takes a look at area wildlife, wildflowers, and resident birds along the shore. Reservations: (805) 686-5050 weekdays, (805) 686-5055 weekends. \$15/adults; \$7/child 4-12 years old; please no children under 4.

SO YOU WANT TO PHOTOGRAPH THE STARS?—PART VI

In the final article of this series we will look at two additional, and very important, aspects of successful astrophotography: focus and processing. Good focus is *critical*. No amount of processing can improve on poor focus. More than once I have had to discard otherwise good astrophotos because of poor focus. Nowadays accurate focus of any fairly bright object can be achieved by using live view from either a DSLR or CCD camera displayed on a laptop computer screen. When imaging a faint object, focus using a nearby brighter star (preferably a double star). An essential piece of equipment for accurate focus is a motor-driven focuser that allows hands-free focusing so the telescope is not disturbed by vibrations making it difficult to see when the best focus is achieved. A diffraction mask may also help. Just as poor focus cannot be fixed by processing, great images can become mediocre with poor processing. Volumes have been written about astrophotography processing, and there are a number of computer programs used singly or in combination that greatly aid in the processing adventure. First, it is necessary with faint objects to stack a series of images together in order to achieve a better contrast between the object and the background (a good high contrast filter will suppress ambient city light) and also to help eliminate inherent camera electronic "noise." Registax 5 or 6 are very useful for this as is Deep Sky Stacker, all of which are freeware. Additional programs can then be used to process the final stacked image. Comprehensive programs such as Maxim DL or PixInsight (the most sophisticated and comprehensive of all the programs) include stacking, gradient, and numerous other programs to aid in the creation of a final image. However, good results may be had without use of these rather expensive programs. For those using DSLR cameras, I highly recommend Jerry Lodriguss' DVDs, *A Guide to Astrophotography with Digital SLR Cameras* and *A Guide to DSLR Planetary*

Imaging. To show you dramatically how a single image of M31 looks and how it appears after multiple stacked and processed images, compare the two images below. Happy photographing the stars!



ARTS CORNER...

Higher Thoughts

Jürgen Hilmer

Our brain has only three pounds of mass.
It is in a cosmos of infinite mass.
This ratio is infinitely stunning
And only known about in our very recent past.

Sophisticated scopes and colliders
Add new data about the cosmic mass.
Our three-pound brain, a stunning flexible mass
Turns thoughts into new theories
That are today's past!

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On the Web: <http://www.sbau.org>

October 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3 SBAU MEETING 7PM	4 AVOCADO FESTIVAL! 10AM-10PM
5	6	7	8 LUNAR ECLIPSE 1AM (TUE NIGHT / WED MORNING)	9 NUTS! SANTA YNEZ ELEMENTARY 6PM	10	11 SBMNH PLANNING MEETING 5PM STAR PARTY 7PM
12	13	14	15	16 KELLOGG SCHOOL 5PM	17 WESTMONT COLLEGE 6:30PM	18 REFUGIO STATE BEACH 7PM
19	20	21	22	23 SOLAR ECLIPSE CAMINO REAL MARKETPLACE 1PM	24 AU CAMPOUT	25 AU CAMPOUT
26 AU CAMPOUT	27	28 MOUNTAIN VIEW SCHOOL 5PM	29 LOS OLIVOS FAMILY SCHOOL 6PM	30	31 HALLOWEEN	

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