



AU AstroNews

The Newsletter of the Astronomical Unit

April 2015

Sponsored by the Santa Barbara Museum of Natural History



*"Darn. No instructions. Hey, anyone! Is Batman still here?"
Photo credit: Tom Totton.*

OUR APRIL SPEAKER

Our speaker for the April 3rd meeting will be Dr. Diana Dragomir who completed all her studies in Canada, obtaining her B.Sc. and M.Sc from McGill University in Montreal. She carried out her doctoral work at the University of British Columbia in Vancouver, where she searched for transiting super-Earths using data from a suitcase-sized space telescope called MOST. She continues to find and study small exoplanets as a postdoctoral researcher at LCOGT and the UCSB Physics Department. The title of her talk is "Neither rocky nor puffy: the mystery of super-Earth exoplanets." A short summary of her talk follows.

"Just 25 years ago, humanity did not know whether planets were common in the Universe or whether the Solar System was an anomaly. Then, in 1995 a giant planet was discovered in a 4-day orbit around a main sequence star. Since then, the number of exoplanets announced every year has been increasing exponentially. We now know of planets with periods between several hours and hundreds of years, and ranging in size from smaller than Mercury to larger than Jupiter. Most intriguing are

the super-Earths: exoplanets with sizes between those of the Earth and Neptune. While absent in the Solar System, the Kepler mission found they are ubiquitous around other stars. Yet we know very little about what these planets are like. Even in cases where we can measure their mass, and hence their density, it is difficult to determine their composition and interior structure. I will discuss how astronomers use both humble and powerful telescopes to gradually reveal the nature of this fascinating class of exoplanets."

OUTREACH SUMMARY

Since the last newsletter, AU volunteers Chatt Aiton, Angela Bates, Bill Clausen, Tim Crawford, Joe Doyle, Ruben Gutierrez, Art Harris, Sean Kelly, Chris Larson, Pat & Chuck McPartlin, Janet & Martin Meza, Bruce Murdock, Max Neufeldt, Edgar Ocampo, Javier Rivera, David Salvia, Colin Taylor, Tom Totton, Chris Ulivo, Tom Whittemore, Jerry Wilson, and Paul Winn showed cool stuff in the sky to 1431 people.

APRIL OUTREACH EVENTS

It's April, and it's getting dark later, but don't hesitate to join us. Here are the AU events scheduled so far. To get the latest information on schedules, or directions, just contact Chuck at 964-8201 or macpuzl@west.net

FRIDAY, APRIL 3, 7 PM

Monthly AU meeting in Farrand Hall at SBMNH. Start with a short planetarium show, then hear about Super Earth extrasolar planets. Catch 40 winks before the eclipse.

SATURDAY, APRIL 4, SETUP 3 AM

View the total lunar eclipse from the Westmont Observatory. Eclipse phases go from 2 AM to 8 AM, but we'll be set up for the umbral phases, from 3:15 to 6:45 AM, when the Moon is setting for us.

SATURDAY, APRIL 4, SETUP 7 PM

Telescopes for Bacara Resort and Spa. We set up on their Bluff (ex-Miró) Lawn. Contact Chuck for access if you haven't come before.

SATURDAY, APRIL 11, 5:30 PM

AU planning meeting in the classroom outside Javier's office at SBMNH.

SATURDAY, APRIL 11, 7:30 PM TO 10 PM

Monthly Public Star Party at the Santa Barbara Museum of Natural History.

THURSDAY, APRIL 16, SETUP 5 PM

Telescopes for Science Night (6-8) at Aliso School, 4545 Carpinteria Avenue in Carpinteria.

FRIDAY, APRIL 17, 7:30 PM

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

THURSDAY, APRIL 23, SETUP 4 PM

Telescopes for Science Night (5-7:30) at Vieja Valley School, at 434 Nogal Drive, Santa Barbara. It'll never get dark, but we can get the Moon, Venus, and maybe Jupiter.

FRIDAY, APRIL 24 SETUP 7 PM

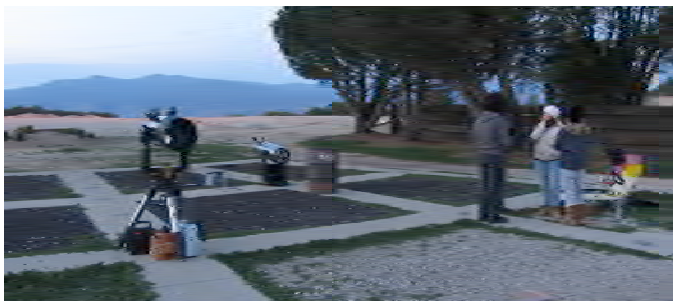
Speakers and telescopes for an astronomy celebration at SBMNH, star party in the usual spot.

SATURDAY, APRIL 25, SETUP 9 AM

International Astronomy Day at Camino Real Marketplace, 10 AM to 10 PM. Come help out at our biggest outreach of the year!

TUESDAY, APRIL 28, SETUP 7 PM

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



Messier Marathon setup. Photo credit: Tom Totton.



Early light at the Bacara with Martin. Photo: Tom Totton.

“Time Travel”

Tom Totton, SBAU 2015 President

The March 1st Friday meeting with Professor Jerry Clifford of Cal State Channel Islands was great as we learned about the magnetohydrodynamics inside the Sun which relates to the sunspot cycle, solar prominences (& coronal mass ejections), and the reversal of the sun's overall magnetic field every 22 years. It was interesting to see the sunspots start from the upper latitudes and work towards the equator from both poles in a butterfly fashion. See some reminder photos here:

<https://www.flickr.com/photos/sbaushots/sets/72157650814427240/> . One star down, many to go!

Earlier, the same day, we gave away another Science Fair award of a jaw-dropping \$300 to Zoe Reifel. She was our winner two years ago for solar tracking. This year she studied the data from her own exoplanet viewing using another homemade tracker with a camera and zoom lens. Help us next year by becoming a judge.

<https://www.flickr.com/photos/sbaushots/16530907977/in/set-72157650750046997>

The Tuesday Telescope Workshops have been busy with over 10 folks participating several of the nights. If you want to get started or get deeper into telescopes and astronomy, these nights are a good opportunity for learning from some of our more experienced members. Show and tell of various telescope parts, or astrophotography displays, besides the mirror making, is always worthwhile. Bring your concerns.

In April we will be having two Exoplanet presentations: our April 3rd general meeting, and also the Museum is putting on another, Friday, April 24, 7-9pm. This second one is aimed to encourage students to explore astronomy and will

be with a different post-doc speaker. However, SBAU members are highly encouraged to attend and participate in this event as there will be plenty of space in the Fleischmann Auditorium, followed by an evening of telescopes at the Observatory til 9pm. Please enjoy and help make this a great event for the students and their families. However, "reload" for our all day Astronomy Day at the Camino Real Marketplace on Saturday, April 25. Can you ever have too much astronomy? See you soon!



*Chatt shows the public a variety of objects at Westmont.
Photo: Tom Totton.*

NEWSFLASH – On the night of April 1, AU member Ernest Ocular, while observing the trans-duodenal region of the Milky Way with his new 8-inch Ocular Industries astroendoscope, discovered a milliyocto-Jupiter sized endoplanet with a methane atmosphere.

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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!

AU annual membership rates:

Single = \$15 Family = \$25

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April 2015

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3 SBAU MEETING 7PM	4 TOTAL LUNAR ECLIPSE WESTMONT COLLEGE 3AM BACARA 7PM
5	6	7	8	9	10	11 SBMNH PLANNING MEETING 5:30PM STAR PARTY 7:30-10PM
12	13	14	15	16 ALISO SCHOOL 5PM	17 WESTMONT COLLEGE 7:30PM	18
19	20	21	22	23 VIEJA VALLEY SCHOOL 4PM	24 SBMNH 7PM	25 ASTRONOMY DAY CAMINO REAL MARKETPLACE 10AM-10PM 9AM SETUP
26	27	28 CAMINO REAL MARKETPLACE 7PM	29	30		

The Astronomical Unit

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