

# Vandenberg Amateur Astronomical Society presents The Sidereal Times



Eagle Nebula (see page 5)

### Meeting News:

At the April meeting we discussed open house for Girl Scouts, on the 25<sup>th</sup> at the observatory and supporting Vince for astronomy day at Hancock College on May 1<sup>st</sup>. Talked about the Lunar eclipse, star parties and meteor showers. Sound problems with the video system prevented viewing of a Hubble telescope CD. Discussed having VAAS members do a presentation at future meetings, strictly voluntary.

**Reminder: VAAS meeting May 8th at 7:00 PM  
Manzanita school, Hope to see you there.**



### Lunar Calendar:

New Moon 18th  
Full Moon 4th



### Presidents Message

**Astronomy Day-Aril 25** started out with a light rain (which we need in this drought we are in,) but it never seems to fail, that on the day we want to be bright in the day and clear at night- the weather does not cooperate and we had more cloud cover last night at our star party than open sky.

The silver lining was that the Girl Scout troop that was not able to see the stars at the last star party we had for them, due to cloud cover – came and enjoyed the time, even though the viewing was limited to the Moon, and Venus. Jupiter would play peek-a-boo and hid most of the night. The girls and many parents enjoyed viewing through our telescope in the Observatory and seeing the set-up in there where Vince Tobin was in charge. He had brought a pamphlet that had astronomy questions, and a place to answer them. If a girl scout answered 3 correctly, then she got a cute stamp for her efforts, which they all seemed to enjoy.

Vahan Yeterian had his laptop out showing his own terrific photos of Astronomy objects, which pleased all who saw them. That was a great idea, especially useful when the clouds covered most of the sky. Dave Covey brought his big scope which showed the moon and its craters, which is always a hit with the public. I had trouble with my scope, and could not use my tracking, and when I finally got it on the moon, the clouds covered it for good, and people were leaving! I did get some good photos of the children looking into our scopes, which will help in the future when we can use these to send to the newspapers. It turned out to be a happy night, as the many people that came seemed to enjoy what they saw, and appreciated our efforts. We had other families visit us also, due to posters that I made and put up around town, and articles in the Lompoc Record and the April Vision free newspaper. I want to thank Vahan, Vince, and Dave for taking the time and effort to making this star party a success!

*As always Clear Skies.....Jana*

## Events

**May 4<sup>th</sup>** Full Moon, the Moon will be located on the opposite side of Earth and will be fully illuminated by the Sun. This phase occurs at 03:42 UTC.

**May 5 & 6** Eta Aquarids meteor shower is an above average shower capable of producing up to 60 meteors per hour at its peak. Most activity is seen in the Southern hemisphere. In the Northern hemisphere the rate can reach 30 meteors per hour. It is produced by dust particles left behind by Comet Halley. The show runs annually from April 19<sup>th</sup> to May 28<sup>th</sup>. It peaks this year on the night of the 5<sup>th</sup> and morning of the 6<sup>th</sup>. Meteors will radiate from the constellation of Aquarius but can appear anywhere in the sky.

**May 7<sup>th</sup>** Mercury at greatest Eastern elongation. The Planet reaches elongation of 21.2 degrees from the Sun. This is the best time to view mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet in the Western sky just after Sunset.

**May 9<sup>th</sup> Star party at the Observatory.**



**May 16<sup>th</sup> Star party at Figueroa Mountain site 1.5.**



**May 18<sup>th</sup>** New Moon. The Moon will be located on the same side of Earth as the Sun and will not be visible in the night sky. This phase occurs at 04:13 UTC. This is the best time to observe or photograph deep sky objects because there is no Moon light to interfere.

**May 23<sup>rd</sup> Star Party at the Observatory.**



**May 23<sup>rd</sup>** Saturn at opposition. The ringed planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to observe or take photographs of the planet and its Moons.

### Star Party tips

Do a mental equipment check before you leave your home. I've seen a lot of people turn around and go home after arriving at the observing site because they forgot a critical piece of equipment.

## Star Party and Events

**April 11<sup>th</sup>** Star party at the observatory. Craig Fair, Justin Graves, Dave Covey, Dave McNally, Vince Tobin and his wife and Vahan on site. Was a bit windy until Sundown. Craig and Justin set up their scopes and Vince opened up the observatory. Vahan and Dave Covey just enjoyed looking through the scopes at different objects. Dave McNally helped Craig survey in Craig's new CG mount. Seeing was good and no trouble with Mosquitoes this time. Another good evening under the stars..



**April 18<sup>th</sup>** Star party Figueroa Mtn. Craig Fair, Jon Walke and Jim VanCura on site. There was one other, not a member of VAAS, on site taking pictures; Geza Kurczveil. Geza has been on site many times during our Fig Mtn star party sessions. Craig was able to get some nice pictures using unguided mode with his new mount. Jon was having some trouble with his hand controller so the rest of the time was spent visual observing with his scope. Jim VanCura spent hours taking short exposures, with his camera, to stitch together for star trails. Geza, as usual, was doing very long exposures of the Virgo cluster area with some very expensive equipment. Jon, Craig and Jim departed at 12:30am. The sky was clear, good seeing, with some mild wind and an occasional gust. It was another good night under the stars.



**April 25<sup>th</sup>** Star party at observatory for the Girl Scouts and parents. The weather was not at all cooperative almost completely overcast. Vince, Jana, Dave Covey, and Vahan on site. The Scouts and parents started arriving at about 7:30pm. There were 14 scouts and 8 adults on site. Dave had his 8 inch SCT, Jana her 4 inch Refractor, and Vince a small SCT. Also the observatory 14 inch SCT was operational. Vahan had his Laptop with a lot of photos of celestial objects for the group to view. Venus and Jupiter and the Moon were peeking in and out of the overcast for a while then it completely clouded over. Vince gave out forms for the kids to fill out with what they observed and were awarded a little prize for viewing various celestial objects (Laptop views counted). All who attended had a good time. Scouts departed about 9:00pm. Photos on page 3 & 6.



## May Moon

May	2015	Northern Hemisphere	Go	This Month		
«« May 2015 »»						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 	2 
3 	4 	5 	6 	7 	8 	9 
10 	11 	12 	13 	14 	15 	16 
17 	18 	19 	20 	21 	22 	23 
24 	25 	26 	27 	28 	29 	30 
31 						
Moon calculations are based on <i>your</i> time zone. Check your computer time to ensure accuracy.						

Full 4th, New 18th, 1<sup>st</sup> Quarter 11th, Last Quarter 25th

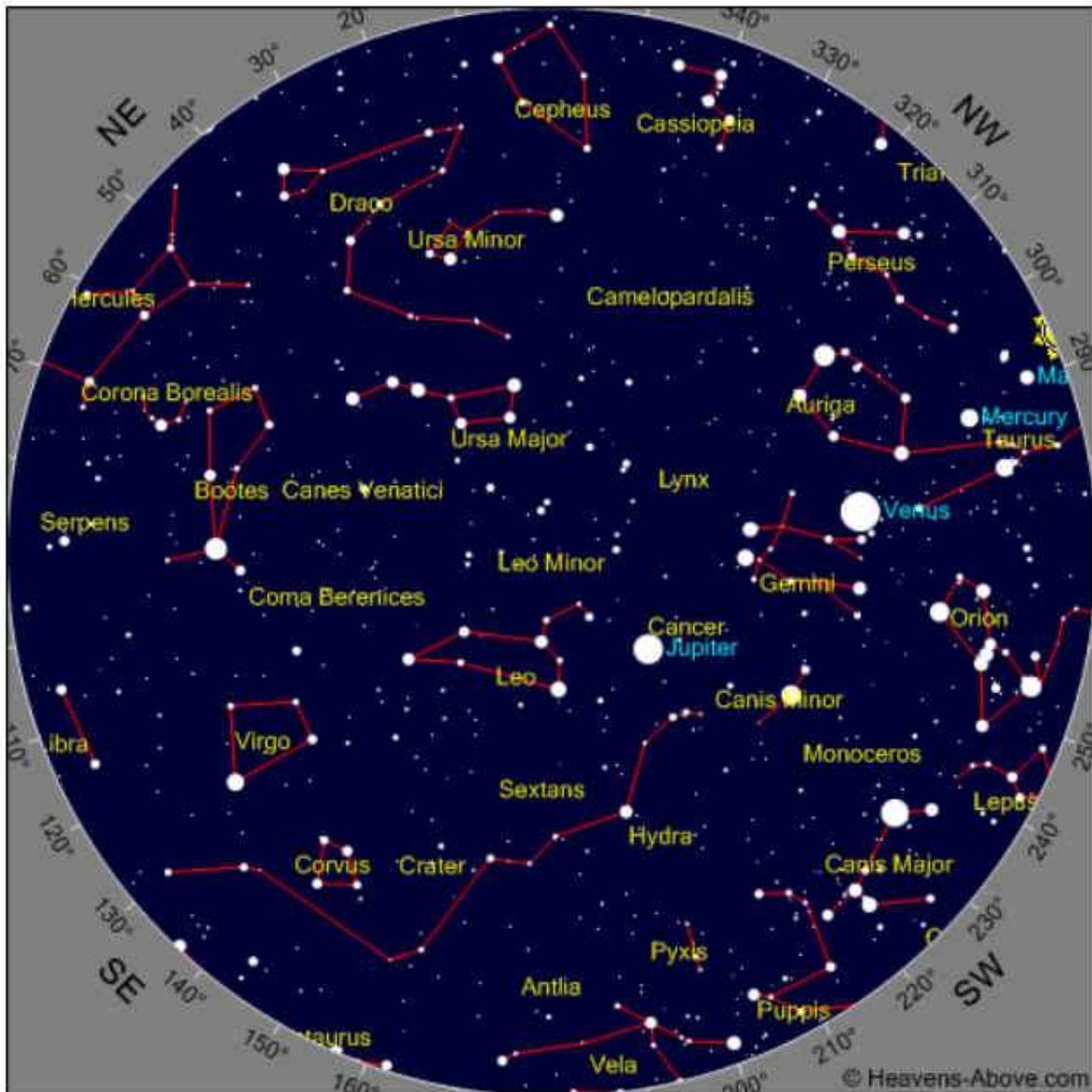
## Moon Folklore

The night of the full Moon is believed to be a good time for Divination and scrying.



## May Sky

Some Objects of interest, Jupiter, Saturn, Venus, M13, M92



### Time

Year	2015	Month	5	Day	10	Hour	20	Minute	0
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Photo Courtesy Vahan Yeterian



Messier 16, NGC 6611, the Eagle Nebula in the constellation of Serpens is about 7000 light years distant. It is a diffuse emission nebula or H II region and appears to be a current active star formation region. The brightest star in the nebula HD168076 has an apparent magnitude of 8.24 and is a binary star formed of O3.5V plus an O7.5 V companion. The cluster associated with the nebula has approximately 460 stars, the brightest of O type and a mass of 80 solar masses. Its luminosity is up to one million times of the Sun. Its age is approximately 1 to 2 million years. M16 contains several star forming regions including the "Pillars of Creation". The interstellar hydrogen gas and dust act as incubators for new stars. Evidence from the Spitzer telescope suggests the "Pillars" in M16, may have been destroyed by a supernova explosion some 8000 or 9000 years ago. The more slowly moving shock wave would have taken a few thousand years to move through the nebula and would blow away the delicate "Pillars". The light showing us the destruction will not reach us for another millennium. Image capture was using a 12inch SCT and Canon T3 modified. One 1 minute exposure processed in black and white.

## **For what its worth**

**Active Optics** A computer controlled system that compensates for the distortion of a telescopes mirrors caused by gravity thus allowing a thinner mirror and lighter support structure to be used. It works by monitoring the image of a guide star and sending appropriate signals to actuators that in turn control movable supports to correct the mirrors shape and alignment.

## **How to use filters**

Use color filters to better observe planets - but don't let the name fool you. Filters don't add or show colors. They exaggerate brightness differences (contrast), making certain features easier to see. So, when you use a filter look for brightness changes on the planet or in its clouds. Color filters are labeled along their circumferences. Screw one into the eyepiece barrel. All color filters work better with larger telescopes. It's a simple rule of *light throughput*. An example; a #47 violet filter used with a 4 inch scope to see cloud features on Venus just doesn't work. The filter transmits only 3 percent of the light hitting it. However the same filter on a 12 inch scope easily reveals features. The list of filters and their transmission qualities are presented herein:

#8 light yellow - 83%	#11 yellow-green - 78%	#12 yellow - 74%
#15 deep yellow - 67%	#21 orange - 46%	#23A light red - 25%
#25A red - 14%	#38A dark blue - 17%	#47 violet - 3%
#56 light green - 53%	#58 green - 24%	#80A blue - 30%
#82A light blue - 73%		

**Immune to Magnification** Stars are so ridiculously far away that no matter how massive or blown out of proportion they may be, to us they look like points. Magnify a point, and it's still just a point. That means that, unlike objects that cover an area, the light from a star does not get spread out as you magnify the image. All the light from the star stays inside the point. However... as you increase magnification, the background sky glow does get spread out, which means the background gets darker and the star stays bright. This is a nice way of increasing the contrast on stars, and sometimes making fainter stars more visible. Just remember, this works until you reach the maximum magnification of the scope, which is the same number as the diameter of the scope in millimeters. When you exceed that magnification (or the limits of atmosphere), the stars start to spread out and dim down just like everything else.



## Moon

This identifies the Lunar Maria and the translation from Latin to English, also some of the more prominent craters. Maria/Mare (Latin for Seas) are large Basaltic Plains. There are others not shown herein called Lacus (small Basaltic Plains) Latin for Lakes, and a similar set of features called Sinus Latin for Bays.



The night sky offers an object that is larger, brighter, and more visually captivating than anything on Messier's list: the Moon. Yet many backyard astronomers never go beyond the astro-tourist stage to acquire the knowledge and understanding necessary to really appreciate what they're looking at, and how magnificent and amazing it truly is. Perhaps this is because after they identify a few of the Moon's most conspicuous features, many amateurs don't know where to look next.

The most interesting regions are, Mare, craters, basins, mountains, rilles, and domes. I challenge observers to find and observe them all and, more important, to consider what each feature tells us about lunar and Earth history.

Observing the multitude of lunar features can be very rewarding and many of the lunar features are visually captivating. *During some phases of the Moon many of the faint deep sky objects are washed out so why not explore the lunar surface.*

## *Club Officers*



**President**  
Jana Hunking



**Vice President**  
Dave Covey



**Treasurer**  
Vince Tobin



**Newsletter Editor**  
Vahan Yeterian

*“Astronomy compels the soul to look upward,  
and leads us from this world to another”.*  
(Plato)



## Club Meeting

**Reminder** Club meeting May 8th 7 PM  
Manzanita school.  
Hope to see you there.....

## Star Parties (as always weather permitting)

## Other Astronomy Club Meetings

### Central Coast Astronomical Society

Link to web site...

<http://www.centralcoastastronomy.org/>

### Santa Barbara Astronomical Unit

Link to web site...

[http:// www.sbau.org/#AU\\_EVENTS\\_Calendar](http://www.sbau.org/#AU_EVENTS_Calendar)

## Night Time Bright Objects (no scope required)

Link to “Heavens Above” web site

[http:// www.heavens-above.com/](http://www.heavens-above.com/)

(Iridium Satellite)

(ISS Visible Pass)

Be sure to set the nearest location from their  
pull-down menu.

The web site link below will take you to some  
Great Milky Way interactive images and how  
It was developed. (Type it in the search box.)

<http://skysurvey.org/>

## VAAS.

Dave McNally is the VAAS Web Site Serf/Minion.

