

# Vandenberg Amateur Astronomical Society presents The Sidereal Times



Trifid Nebula NGC 6514 (see page 5)

### Meeting News:

The September meeting we discussed the brochure and our Annual picnic scheduled for 15 October and activities during Summer break. **NOTE: Our annual picnic is on October 15<sup>th</sup> at River Park Lutheran Pavilion 12:00.**

**Reminder:** VAAS club meeting Oct 14th 7:00PM  
Manzanita School, teachers lounge.



### Lunar Calendar:

New Moon Oct 1st  
Full Moon Oct 16th

Craig



### Presidents Message

As I am writing this, our crazy, wild week in Lompoc hopefully is coming to an end.....3 different fires and a fireman killed in an accident- (so sad), a launch of an Atlas 5 that kept getting scrubbed 3 times -(now won't go off till late Oct.) What next ??

We are hoping to see our new and potential members at our meeting on Oct 14 at Manzanita School. We will be finalizing our plans for our annual VAAS Picnic which happens to be the next day- Sat. Oct 15. The Picnic will start at Noon at the Lutheran Pavillion at River Park near Lompoc. It is the very last picnic area at the far back of the park, and there is parking right next to the area, just off the road. The road there has many speed bumps, and also root bumps, so it is slow going out there. The club will provide the plates, napkins, silverware, and water, and steak barbequed by our Famous Chef Vahan. We need salads, snacks, and desserts brought to round out our Picnic Food. It has always been an enjoyable, relaxing time to get to know each other better.

### Picnic on Oct. 15 -Sat.

We will eat by 12:30, so be on time so you can share and enjoy the food when it is served. Sorry- No pets please!

At our last meeting, Dave McNally announced that our former President Dave Covey had donated \$400 to our club through the sale of items that he chose not to take with him to Prescott, Az where he just moved recently. We want to Thank Dave Covey for the generous gift of \$ to our club, and to Dave McNally for taking about 2 months of his time selling the items off on E-Bay and other areas. Also we received thank-you notes from Nichelle Rourke's 3<sup>rd</sup> grade class for helping them at our Observatory with solar viewing and other activities last April. The notes will be available for viewing at this meeting.

### Hope to see you at the Oct. 14 Meeting !

May we have clear skies with no more smoke in the air! Jana

## Events

### Oct 1<sup>st</sup> *Star party at Figueroa Mountain site 1.5.*



Oct 7<sup>th</sup> Draconids meteor shower is a minor shower producing about 10 meteors per hour. It is produced by dust grains left over by comet 21P Giacobini-Zinner. It is best viewed in early evening on the evening of the 7<sup>th</sup>. Meteors will radiate from the constellation of Draco but can appear anywhere in the sky.

### Oct 8<sup>th</sup> *Star Party at the observatory.*



Oct 15<sup>th</sup> Uranus is at opposition, the blue green planet will be at its closest approach to Earth than any other time of year and be visible all night long.

Oct 16<sup>th</sup> Full Moon Super Moon was known as the Full Hunter Moon by native American tribes because at this time of year the leaves have fallen and the game is fat and ready to hunt. This is also the first of 3 super moons for 2016 and will be at its closest approach to Earth.

Oct 20 & 21 Orionids Meteor shower is an average meteor shower producing about 20 meteors per hour. It peaks this year on the night of the 21<sup>st</sup> and morning of the 22<sup>nd</sup>. Meteors will radiate from the constellation of Orion but can appear anywhere in the sky.

### Oct 22<sup>nd</sup> *Star Party at the Observatory.*



### Oct 29<sup>th</sup> *Star Party at Figueroa Mt site 1.5.*



Jon Walke

Craig & Jon Set up equip.



## Star party's and Events

Sept 3<sup>rd</sup> Star party Figueroa Mt. No participants due to the Las Flores Ranch support by some of the membership.



Sept 3<sup>rd</sup> Star party at Los Flores ranch. Vince and Craig on site the sky was cloudy but they set up their equipment in static display. There were quite a few visitors (30+) to the event. Vince did have some luck peeking through the clouds now and then with his 16 inch Dob but that was short lived, visitors were at least able to see some objects. Some of the young kids wanted to look at ground objects with the big 16 inch Dob so Vince set up for them. The kids really enjoyed the ground object viewing. Craig had his laptop set up and showed many of the astro photos he took with his telescope it was a big hit with the visitors. Vince and Craig were the only ones from VAAS, the San Luis club had about 7 in attendance. The event went well even with cloudy skies prevailing.



Sept 10<sup>th</sup> Star party at the observatory. Star party cancelled because of weather.



Sept 13<sup>th</sup> Dave McNally and Vahan performed maintenance on the observatory. Greased and lubricated the dome and shutter tracks and guide rails and bearings. Still have a squeak or two in the shutter caused by a mechanical misalignment. Vacuumed the interior carpet area and general clean up.

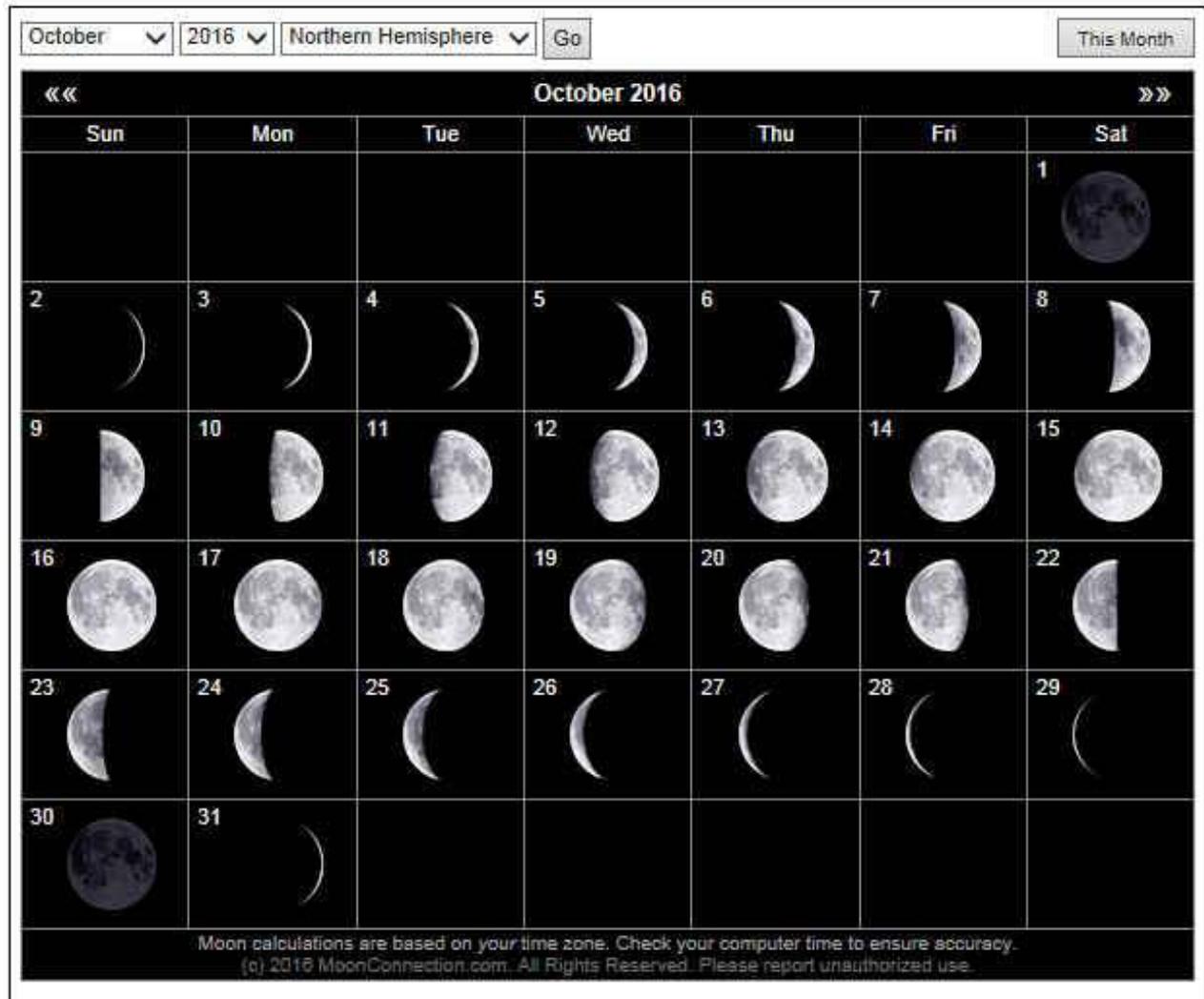
Sept 24<sup>th</sup> Star party at the observatory. Vahan, Dave McNally Vince Tobin and Craig Fair on site. Sky was a clear dry night with no wind. The Milky Way dominated the heavens. Vahan set up his 12 inch Dob. Vince his comet catcher and Craig his Celestron 9.25 inch SCT and CGEM mount to do some astrophotography. Dave operated the observatory. Lots of nebula and clusters were imaged. Craig photographed M27 and M57. It was a great night under the stars.

Louise

Tom & Vince



## Oct 2016 Moon



Full 16th, New 1<sup>st</sup> and 30th, 1<sup>st</sup> Quarter 9th, Last Quarter 22nd

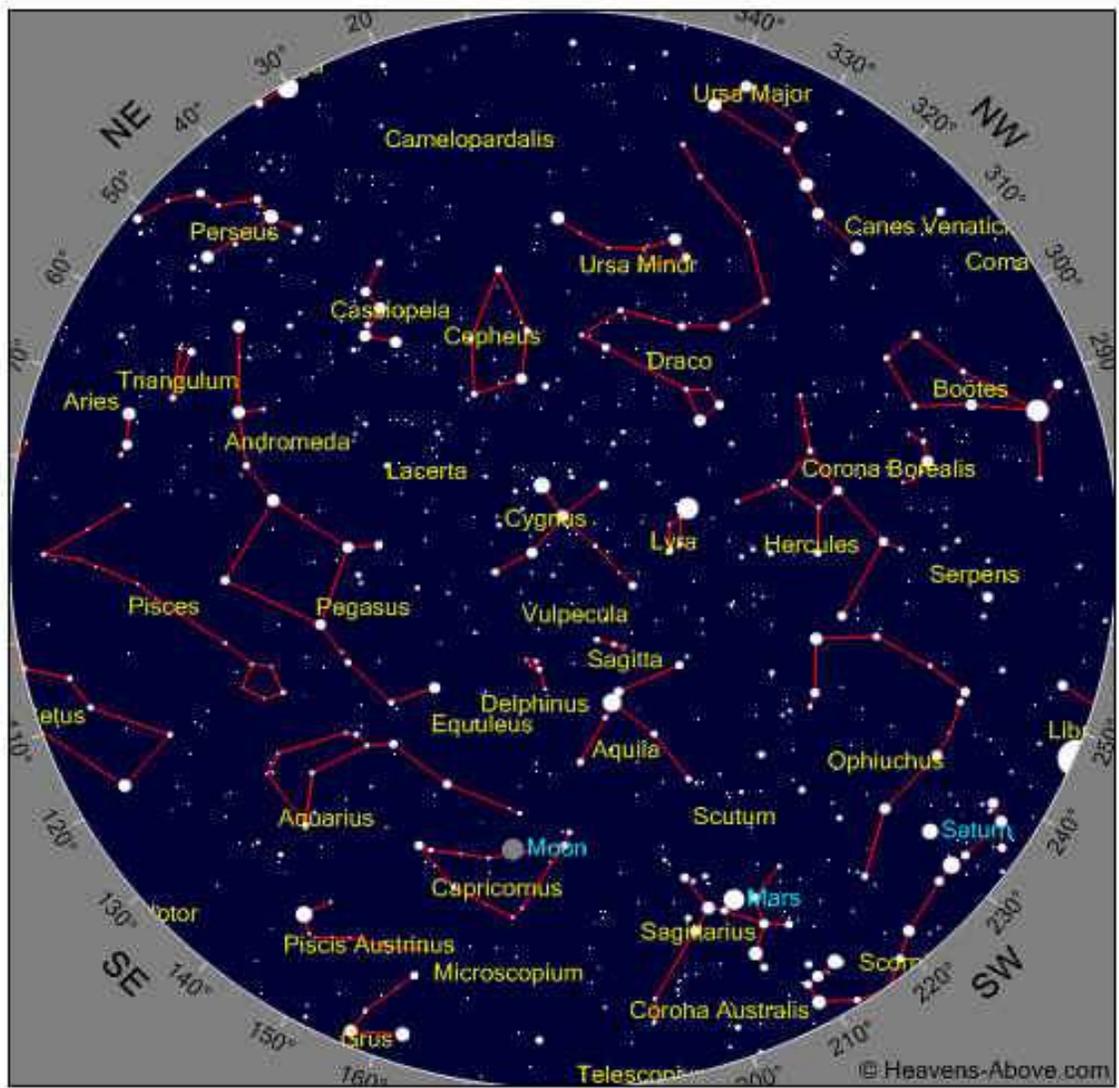
### Moon Folk Lore

In some Native American legends, the moon is held captive by a hostile tribe. A pair of antelope hope to rescue the moon and take it to the village of a good tribe, but Coyote, the trickster, interferes. The antelope chase Coyote, who tosses the moon into a river each night, just out of reach of the antelope.

- Rail fences cut during the dry, waning Moon will stay straighter.
- Wooden shingles and shakes will lie flatter if cut during the dark of the Moon.

## October 2016 Sky

Some Objects of interest M27, M42, M31, Double Cluster



### Time

Year	2016	Month	10	Day	10	Hour	20	Minute	3
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Photo Courtesy Jon Walke



**Messier 20** the Trifid nebula NGC 6514 is located in constellation of Sagittarius and is 5200 light years from Earth. The name means divided in to three lobes. It is an unusual combination of open cluster stars, an emission nebula, and a reflection nebula and a dark nebula that are the gaps between. The apparent gaps within the emission nebula cause the truncated appearance, it is also designated Bernard 85. The nebula is a star forming region in the Scutum spiral arm of the Milky Way. The most massive star that has formed in this region is HD164492A an O7.5III star with a mass 20 times greater than the Sun. The star is surrounded by a cluster of approximately 3100 young stars. The nebula was the subject of an investigation using the Hubble telescope using filters that isolate emission from hydrogen atoms, ionized sulfur atoms and doubly ionized oxygen atom. The combined images provided a false color composite picture suggesting how the nebula might look to the eye. The dense cloud of gas and dust is full of embryonic stars and is about 8 light years away from the nebula's central star. A jet protrudes from the head of the cloud and is about 0.75 light years long. Jets are the exhaust gasses of star formation and radiation from the nebula's central star makes the jet glow. The images also showed a finger like stalk that points directly toward the star that powers the Trifid nebula.

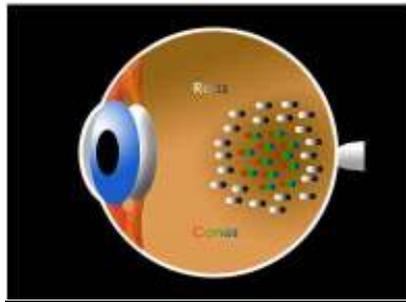
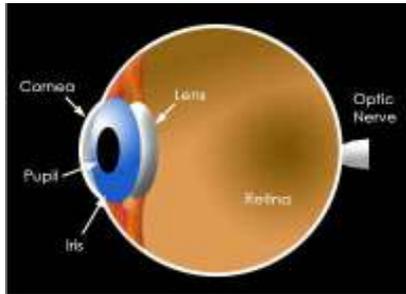
Image capture with C8 1280mm @ F/6.3 600mm w/PHD2 guide, Canon T3(mod) ISO 1600. 7x300s Lights/20 Darks/40 Bias/40 Flats.

Site 1.5 Figueroa Mt.



## **For what its Worth**

An understanding of how the human eye functions can give you an edge in getting the best visual observations. The human eye is a very sophisticated and quite an impressive organ which can adapt to an amazing array of conditions. We are capable of seeing in both sunlight and moonlight despite the full moon being half a million times fainter than the sun. This huge dynamic range allows us to see detail in the moon and planets as well as subtle swirls and spiral arms in dim nebulae and galaxies. The workings of the eye can be used to definite advantage, so some of the structures and visual adaptations of the eye, and how they factor into observing, are related below.



Above: *Color-sensitive cones occur in the center of the retina, with black-and-white rods surrounding them*

An important distinction between rods and cones is that cones are sensitive to high light levels but not to dim light. This has a significant effect on what you can see through a telescope. Since most astronomical objects are dim, the light from them does not stimulate the color-sensitive cones. This is why most deep-sky objects appear black and white. While these objects have color, as any deep-sky photograph will show, the color is too faint to be detected by the human eye. Brighter objects such as the planets and bright stars can easily stimulate the cones and appear in color.

Some deep-sky objects are bright enough to stimulate the cone cells. However, the eye's sensitivity to color changes in low light levels. The peak wavelength to which the eye is sensitive shifts toward the green part of the spectrum. Also, red and blue sensitivity drop off dramatically. The sensitivity of the human eye in bright light and low light are termed, Bright light vision is termed *photopic*, and low-light vision is called *scotopic*.

This shift in color sensitivity means that even if an object is bright enough to stimulate color receptors, the dominant color will be green. In fact, the deep-sky objects that tend to show the most prominent color are planetary nebulae. This is because planetaries emit 57% of their light from excited oxygen atoms, which give off light in the green part of the spectrum to which the eye is most sensitive. Most observers see planetary nebulae as blue-green in color.

There is a blind spot in the eye, where the optic nerve attaches. This blind spot sits about 15° to 20° away from the center of the eye, in the direction of the ear. Observers should thus avert their vision in the direction of the nose to avoid placing the light from the object onto the blind spot.

## *Club Officers*



**President  
Jana Hunking**



**Vice President  
Tom Gerald**



**Treasurer  
Vince Tobin**



**News Letter Editor  
Vahan Yeterian**

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



## Club Meeting

**Reminder** Club meeting Oct 14th at 7:00Pm  
Manzanita charter School.

## 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

Dave

