

# Vandenberg Amateur Astronomical Society presents The Sidereal Times



Galaxy M 51 (see page 5)

### Meeting News:

At the May meeting we discussed Outreach for Manzanita School. Recapped events during April. Watched a video by Dr. Tyson about the search for life in the universe. Retired to the observatory for some OJT on scope operation.

**Reminder: VAAS meeting June 13th at 7:00 PM  
Manzanita school, (This is the Last meeting and Newsletter  
until September).**



### Lunar Calendar:

New Moon 27th

Full Moon 14<sup>th</sup>

### A little Humor:

A Programmer's wife tells him, "Run to the store and pick up a loaf of Bread, if they have eggs get a dozen". The programmer comes home with 12 loaves of bread.



Huh?

### Presidents Message

We had a fair turnout at the May meeting. We will take a summer break in July and August for the Newsletter and membership meetings. The star parties (all are weather permitting) will continue in June, July and August. We'll pick up the Newsletter and membership meeting in September. As most know by now, the expected new meteor shower on May 23-24 turned out to be a bust ☹. However, there are two regular meteor showers coming up in the near future that you might want to consider. July 28, 29 - **Delta Aquarids Meteor Shower** is an average shower that can produce up to 20 meteors per hour at its peak. August 12, 13 - **Perseids Meteor Shower** is one of the best meteor showers to observe, producing up to 60 meteors per hour at its peak. It is best to view meteor showers away of the cities in any dark sky location with a fairly good horizon. There is no need for binoculars or scopes; just a comfortable lawn chair, warm clothing and patience.

The month of June will have short nights but there will be bright planets in the evening sky (in order after sunset): Jupiter, Mars and Saturn. So if the skies are reasonably clear, you can easily locate these planets and enjoy the views. In a dark sky location you should also be able to see the Milky Way stretching out from the constellation Sagittarius through Cygnus in the Eastern sky. The early June will also be the last time this year to view the giant globular cluster Omega Centauri (NGC 5139). For those who haven't viewed Omega Centauri through binoculars or telescopes it is a large formation of closely grouped old stars (over 1 million stars) that is about 16,000 light-years away. Have fun and clear skies.....Dave

## Events

### June 7<sup>th</sup> Star Party at the Observatory, try to attend.

*Also* there will be a conjunction of the Moon and Mars in the evening sky. The Gibbous Moon will be at magnitude -12.2 and Mars at -0.8. They will be within 2 degrees of each other. Look for them in the Western sky just after Sunset.

### June 21<sup>st</sup> Star Party at the Observatory, try to attend.

*Also* This is the Summer Solstice and it occurs at 10:51 UTC. The North pole of the Earth will be tilted toward the Sun which will Have reached its North most position in the sky over the tropic of Cancer at North Latitude 23.44 degrees. It is the first day of Summer in the Northern hemisphere and the first day of Winter in the Southern hemisphere.

### June 28<sup>th</sup> Star Party at Figueroa Mountain site 1.5, try to attend.

**NOTE:** During July and August Star Party schedules are as follows:

July 5<sup>th</sup> Observatory  
July 19<sup>th</sup> Observatory  
July 26<sup>th</sup> Figueroa Mountain

August 2-30<sup>th</sup> Observatory  
August 16<sup>th</sup> Observatory  
August 23<sup>rd</sup> Figueroa Mountain

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### Some star party Pictures (May)



## Star Party and Events

May 3<sup>rd</sup> The Observatory star party was held at Figueroa Mountain site 1.5 because the Marine layer was moving in to the Lompoc and VAFB area big time. Vince T, Dave C and Vahan Y in attendance. Four of Vince's astronomy students were also on site. Weather was good seeing was good. Dave had his two 8 inch SCT's set up and Vince his 16 inch Dob. Vahan was doing photographic work with one of Dave's SCT's. All had an enjoyable evening. We departed site at 2:30 AM

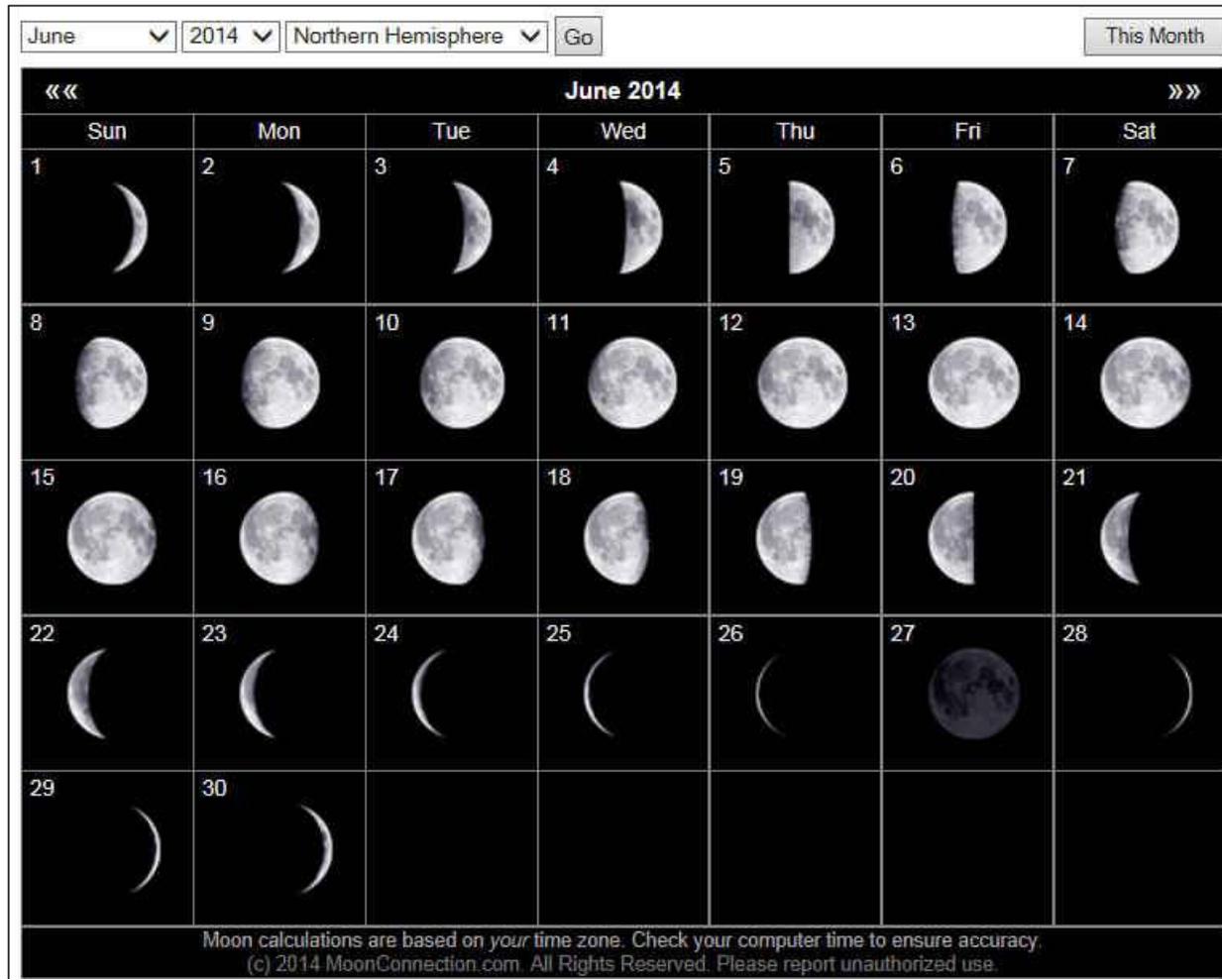
May 9<sup>th</sup> After the club meeting Vince, Dave Covey, Dave McNally and Vahan retired to the observatory for some OJT (by Vince) on telescope operation and star alignment.

May 10<sup>th</sup> Vince, Dave, Vahan, Jana and Louise gathered at the Manzanita School parking lot for a Solar Out Reach event (scheduled from 2 PM to 4 PM) for teachers students and parents. Vince & Dave had their 8 inch SCT's set up Vahan had his 4 inch refractor set up along with his PST. Jana had her 4 inch refractor set up. All scopes were equipped with white light filters and Vahan's PST was operating in the Hydrogen Alpha spectrum. Louise worked with Vince interfacing with the spectators and answering questions. One of the items Vince and Louise used for show and tell was a Cloudy Nights kit about our Magnetic Sun that was well received by the attendees. We had a total of 15 visitors. Although it was a bright clear sunny day the wind was 25 mph gusting to 40 that made for shaky images but still viewable with detail. It was a successful event and fun doing it. See page 7.

May 23<sup>rd</sup> Vince T, Dave C. and Vahan met at Figueroa Mountain site 1.5 for a meteor shower star party. During peak hours there was predicted to be about 200 per hour. Well, the prediction was in error. Between the hours of 2130 and 0200 we observed a total of 17 meteors. Vahan randomly captured 2 using his Canon DSLR. It was a beautiful night and the sky was full of stars. Dave and Vince had their scopes set up and did quite a bit of visual observing. Dave imaged Omega Centauri and did some image capture with his new Canon DSLR. Departed the mountain at 0215 hrs.

May 31<sup>st</sup> Star party Figueroa site 1.5 Dave Covey and Vince Tobin on site. Two additional folks were in attendance with scopes. Dave with his 8 inch SCT and Vince with the 16 inch Dob. The seeing conditions were not the greatest but acceptable. Toward the Southern sky it was quite clear and Omega Centauri was plainly visible. Dave was attempting to capture Omega Centauri with his new Canon Camera and SCT. One of the guests was in the process of wide field astrophotography. All-in-all it was a good star party. The party broke up around 0230 hrs.

## June Moon



Full 14th, New 27th 1<sup>st</sup> Quarter 5th, Last Quarter 20th

### Moon Folklore

If the new Moon is from the North it will be cold for two weeks, but if from the South it will be warm.

The Egyptians saw the Eclipse as the swallowing of the Moon by a mythical Sow.

In Chinese mythology a three legged Toad swallows the Moon.



Lunar Eclipse 14/15 April 2014



Photo Courtesy David McNally



Messier 51 Whirlpool Galaxy NGC 5194 in the constellation of Canes Venatici (The Hunting Dogs) at estimated distance 30 +/- 4 mega light years. Magnitude 8.4. The very pronounced structure is believed to be the result of the close interaction between it and its companion galaxy NGC 5195. This interaction distributed and compressed the gas in some regions of the galaxy resulting in the formation of new young stars. To date 3 Supernovae have been discovered in Messier 51, SN19941 in April 1994, SN 2005CS in June 2005 and SN2011DH in May 2011. It is believed that a black hole, surrounded by a ring of dust, exists in the heart of the galaxy with the center currently undergoing a period of enhanced star formation. The winding arms of the spiral are actually long lanes of stars and gas laced with dust.

Image capture was with a Meade LX200 10 inch wide field SCT (native F#6.3) with a focal length of 1600mm and a Canon T3/1100D DSLR, 18 (X 30 second) frames shot at ISO 1600 were stacked and processed in Deep Sky Stacker (DSS).



## **For What it's Worth**

**Field of View (FOV):** The angular size of the actual patch of sky being viewed by an instrument (usually less than 1 degree). The apparent size of the field stop as seen through an eyepiece, 20° to 90°, depending on the eyepiece. The actual FOV is the angle measured in the sky from one edge of the eyepiece FOV to the other edge. Approximately equal to apparent FOV divided by the telescope magnification. The apparent FOV is the FOV that is written on the eyepiece. To get the true FOV divide the apparent FOV by the telescope magnification.

**Optical Aberration:** Optical aberration is a flaw in the imaging properties of a lens, mirror or optical system. There are six (6) main types of optical aberration,

1. Astigmatism
2. Chromatic aberration
3. Coma
4. Distortion
5. Field Curvature
6. Spherical aberration

**Depth of Field:** In an imaging system the distance in object space over which the system delivers an acceptably sharp image is the depth of field. In a camera the available depth of field depends on both the lens quality and the aperture stop. The greater the aperture stop, the lower the F# the shorter the depth of field and visa versa.

**Penumbra:** The lighter outer shadow of a double shadow effect produced by a large unfocused source of light shining on an interfering opaque object. A penumbral eclipse is one in which the eclipsed object passes through the penumbral shadow.

**Light Pollution:** Ambient background and direct artificial light that interferes with astronomical observations. It does this by reducing the contrast of celestial objects with the sky thus limiting the ability to see faint objects.



VAAS Girl Scout Outreach at Observatory 2013

**Solar Outreach event Photos May 2014 Manzanita School**



## Club Officers



President  
Dave Covey



Vice President  
Monica LeClair



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

Club meeting June 13th 7 PM  
Manzanita school, (*our last meeting until  
September*) 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.



Dave's M57