

# The Observer

SAN BERNARDINO VALLEY AMATEUR ASTRONOMERS

Member of The Astronomical League

<http://sbvaa.org/>



Volume #57, Issue 2

Since 1958

February, 2015

## Meeting:

February 28, 2015

Location: **NEW!**



**First Christian Church**  
**2102 E. Foothill Dr.**  
**San Bernardino, CA**

**7:00 p.m.**

**Pre-meeting Dinner,**  
**5:00 to 6:30 p.m.,**

**NEW!**



**Coco's**  
**2442 Highland Ave,**  
**Highland**

After the meeting telescopes will be set up for viewing and members will be available to answer questions. Bring your telescope to observe with us.

*No telescope is too humble,  
and beginners are always  
made welcome!*

## Program

### 400 Years of The Telescope

The PBS Video, "400 Years of the Telescope," featuring a stunning chronicle of the history of the telescope from the time of Galileo to today's high-tech instrumentation. Narrated by Neil DeGrasse Tyson, the show features interviews with leading astrophysicists and cosmologists who explain concepts that have fundamentally altered the human perception of the world and the universe. Join us for a fascinating look at the history and future of astronomy, something that we are all part of.



## SBVAA Officers

President:

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Secretary - Educational Outreach: Chris Clarke  
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Star Party Coordinator: Tom Lawson  
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## Calendar of Upcoming Events

February 25, Outreach, Lincoln School,  
Colton

February 28, Club Meeting

March 21, Messie Marathon @ RAS's  
GMARS site in Landers, CA

March 25, Outreach, Kingsbury School,  
Redlands

March 28, Club Meeting

April 18, Star Party, Johnson Valley

## Outreaches

We have an outreach at Lincoln School in Colton (444 E. Olive) on Wednesday, Feb. 25. Setup is 5:30 to 6:00 and viewing is from 6:00 to 8:00.

Another outreach will be at Kingsbury Elementary in Redlands (600 Cajon St.) on Wednesday, March 25. Setup is 7:00 to 7:30, viewing 7:30 to 9:00



## Club Meeting Dates for 2015

Mark your calendars:

February 28

March 28

April 25

May 30

June 27

July 25, (dinner only, no regular meeting)

August 22, outdoor BBQ

September 19

October 24

November 21

December 5, (To be confirmed later)

## Club Star Party Dates



February 21, Johnson Valley  
March 21, Messier Marathon, GMARS  
April 18, Johnson Valley  
May 16, Johnson Valley  
**June 11 - 14, Grandview**  
July 18, Johnson Valley  
August 15, Johnson Valley  
**September 11 - 13, Grandview**  
October 10, Johnson Valley  
November 14, Johnson Valley  
December 12, Johnson Valley

*Wildlands Conservancy and outreach parties to be announced as they become known.*

## Observing Highlights for February

**Friday, February 20**, around twilight:

Mars & Venus in a close group plus a narrow crescent Moon

**Saturday, February 21**, evening hours:

The Moon will occult Uranus. It should be visible from most of No. America. Check planetarium resources to get the exact time for SoCal.

**Wednesday, February 25**, 4 p.m. PST:

The first quarter Moon will pass close to Aldebaran and the Hyades. The Pleiades will be slightly to the right.

**Planetary opportunities:**

**Venus** will be the “evening star” in the southwestern sky at and just after sunset.

**Mars** moves from Aquarius into Pisces on Feb. 11. It will pass Venus within 0.5 degrees on Feb. 21. It will remain low in the southwestern sky after sunset.

**Jupiter** past opposition to the Sun on Feb. 6. It moved from Leo into Cancer on Feb. 4, and will remain there until June.

## Just in From JPL/NASA: Smile And The Universe Smiles With You



An upbeat-looking galaxy cluster appears to smile at us in a newly released image from the NASA/ESA Hubble Space Telescope. The cluster - designated as SDSS J1038+4849 - appears to have two eyes and a nose as part of a happy face.

Those eyes are actually very bright galaxies, and the smile lines are, in reality, arcs caused by an effect known as strong gravitational lensing.

Galaxy clusters are the most massive structures in the universe. Their gravitational pull is so strong, they warp the surrounding space-time and act as cosmic lenses that can magnify, distort and bend light. The phenomenon can be explained by Einstein's theory of general relativity.

In this special case of gravitational lensing, an "Einstein Ring" is produced from this bending of light, a result of the exact and symmetrical alignment of the source, lens and observer. That's why we see the ring-like structure.

Hubble has provided astronomers with tools to study these massive galaxies and model their lensing effects. Because of this, scientists can peer further into the early universe than ever before.

*(Photo credit, NASA/ESA using the Hubble Space Telescope)*