nightwatch
Newsletter of the Pomona Valley Amateur Astronomers

Experience is what you get when you didn't get what you wanted. ***Randy Pausch***

We are in Shanahan B460
February 22, 7:30pm.

Volume 39 Number 2 ***nightwatch*** **February 2019**

President's Message

This month I am going to write about a NASA/JPL mission that was near and dear to my heart: Opportunity. On February 13, NASA declared Opportunity's mission complete, after the rover failed to respond to more than 1000 signals sent since its last transmission on June 10, 2018. Opportunity was launched on July 7, 2003, and landed in Meridiani Planum on Mars on January 25, 2004. It then proceeded to explore Mars for more than 14 Earth years, exceeding its planned 90-day primary mission time by a factor of 55. How many machines can you think of that are still working after 14 years with zero servicing or maintenance, period? That Opportunity lasted so long in the cold, dusty environment of Mars is simply astonishing.

Opportunity holds the record for the longest distance driven on a body other than Earth, having covered just over 45 km (28 miles). The runners-up are the Soviet Lunokhod 2 rover, which drove 39 km on the moon in 1973, and then the Apollo lunar rovers, each of which covered between 27 and 36 km on Apollo 15, 16, and 17.

That connection to lunar exploration in general and the Apollo program in particular is a good segue to this month's talk at the upcoming general meeting. Our speaker will be our own club treasurer, Gary Thompson, and he will speak to us about Apollo 9, on the eve of the mission's 50th anniversary in early March. We meet at 7:30 PM this Friday, February 22, in Shanahan B460 on the Harvey Mudd campus in Claremont. I hope to see you there!

Matt Wedel

Club Events Calendar

Feb 22 General Meeting Apollo 9 – Gary Thompson

Mar 2 Star Party – Afton Canyon
Mar 13 Board Meeting
Mar 22 General Meeting

Apr 6 Star Party – Messier Marathon – Mecca Beach
Apr 10 Board Meeting
Apr 19 General Meeting

May 4 Star Party – Mt Baldy
May 8 Board Meeting
May 17 General Meeting Apollo 10

Jun 1 Star Party – White Mountain
Jun 5 Board Meeting
Jun 14 General Meeting Apollo 11 Ken Elchert

Jul 10 Board Meeting

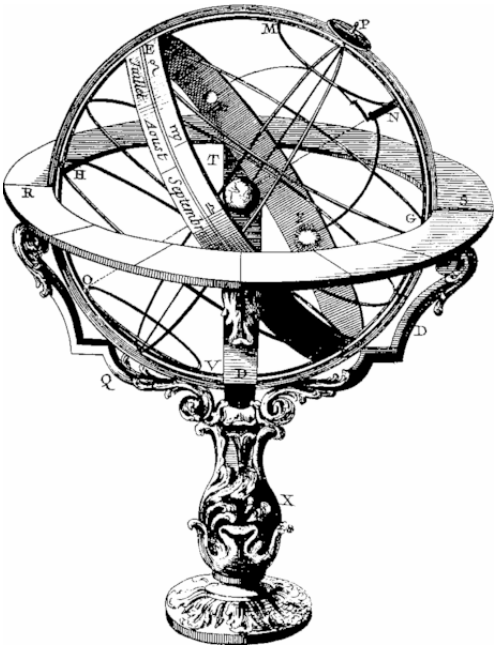
Below is a belated announcement of the passing of Janis Seaton, a former active member of the PVAA

Some of you who have been with the Club for many years may remember Janis and her husband John for their many activities in support of the Club. Janis served as Club Secretary and John was the VP of Facilities.

From Grants Pass Oregon Daily Courier

Publication Date: Sunday, July 1, 2018
Janis Greenlaw Seaton, age 67, of Grants Pass, Oregon, died June 24, 2018, at her home. Janis was born October 21, 1950 in Detroit, Michigan, to Robert Edward Greenlaw and Joanna Jean (nee Storck) Greenlaw. Her father was a forest ranger and the family relocated to a number of different states. Janis graduated high school in Oyster River, New Hampshire, and later attended Kalamazoo College, earning a bachelor's degree in 1971. She met and married John J. Seaton on August 26, 1972. She retired from the State of California as a budget analyst in 2004, relocating to Grants Pass, Oregon, one year later from Etiwanda, California. In February 2015, she was diagnosed with stage four cancer of the esophagus.She was a member of the Grants Pass Genealogical Society. Her hobbies included genealogy, hiking, and gardening. Survivors include her husband, John Seaton

Here is a link to her full obituary:
http://www.thedailycourier.com/obituaries/search.html?id=44731



A few excerpts from past issues of the Nightwatch to refresh our memories!

Nightwatch 9/2007
http://www.pvaa.us/nightwatch/vol27num09.pdf

On July 13th, I went up to White Mountains for our star party. There I met the Stover family and Ron Hoekwater. The seeing was good that night. On the 14th, I cooked a pot roast and rice - that night was cloudy. Ron had two flat tires on this trip. From there, I went to John and Janice Seaton's at Grants Pass, Oregon. They are both fine and told me to say "Hi" to the PVAA. Their house in on a five acre lot and they have some deer that come and drink water from their birdbath. John and Janice keep in touch by reading our website.

Nightwatch 4/1998
http://www.pvaa.us/nightwatch/vol18num04.pdf

John Seaton, Janis Seaton, Ron Hoekwater and Patrick Nicholson went to Owl Canyon campsite as part of their ongoing Star Party site selection process. Passed muster and was used by the Club for future events.

In the same issue it was decided to sell Club's 24-inch scope to Webb School in Claremont

Nightwatch 2/1998
http://www.pvaa.us/nightwatch/vol18num02.pdf

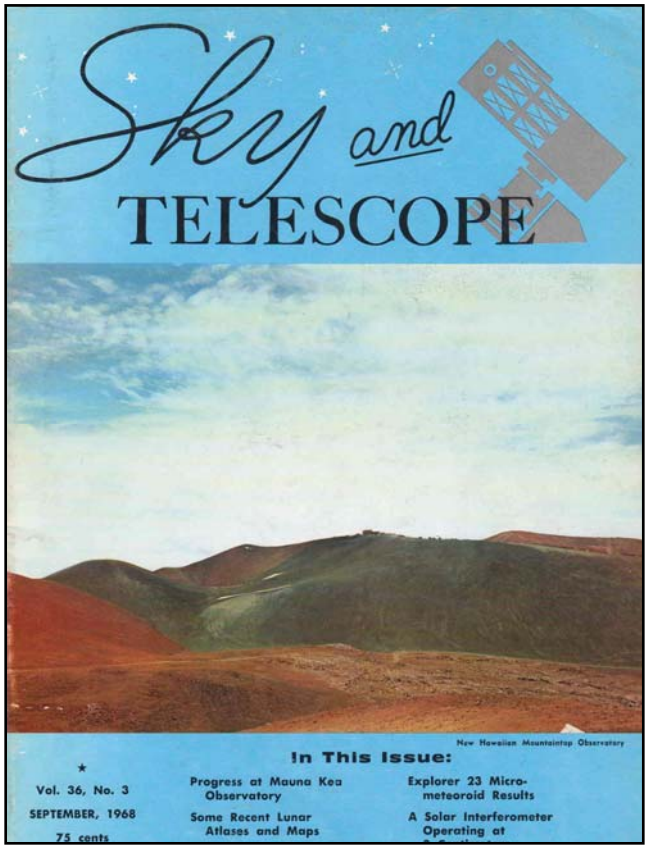
In an article about the Club building school star party scopes, it was shared that Janis stepped up to paint the scopes and is pictured with some of the parts before assembly.

Claire Stover

… and one more thing!

Did you know that all the planets would fit between the Earth and Moon?

https://www.universetoday.com/115672/you-could-fit-all-the-planets-between-the-earth-and-the-moon/



This 1968 Sky and Telescope contained an advertisement for telescope parts with a Claremont connection. The address on California is just around the corner from El Roble school. Does anyone know anything about this?

Ludd Trozpek

NASA SHOCK!

Reading one of those clickbait articles on the Internet, this one about how UFOs were spotted and photographed on a number of ISS and Shuttle missions, I got to the end where--as is common--there were even more clickbait articles on offer. I'm quite worried about the one highlighted in red, that a distant galaxy is on course to collide with the Earth, but I guess I'll leave that problem for others.

Ludd Trozpek

General Meeting 1/18/19

Clyde Graham donated a 10" Meade Schmidt-Cassegrain telescope to the club, which was bought by Ludd Trozpek at the end of the meeting. The money goes into the general fund.

Bill Little was the speaker for the evening. His presentation was about his quest to visit all the Apollo Command Modules. The Apollo IX in the San Diego Air & Space Museum in Balboa Park is the closest one to our meeting place in Claremont. There is a boiler plate Apollo Command Module at the Columbia Memorial Space Center in Downey, California. A 'boiler plate' version is a mock-up, same size & weight of a real command module, but used in testing the aerodynamics or a specific item on the craft, without the expense of building a complete certified copy. The Downey boiler plate version was used on a Little Joe rocket to test the Escape System rocket on top of the command module.

Boiler Plate at
Columbia Memorial Space Center
in Downey

Bill has gone to England, Florida, Texas, Kansas, Missouri, Washington, Washington DC, and other places to visit each Apollo Command Module.

Gary Thompson

Bill Little

Mark Your Calendars – 11/11/19

I know this alert is way ahead of time, and a bit anti-climactic after the big eclipse event in August of 2017, but a transit of the Sun by Mercury it is still a crowd pleaser and a good demonstration to viewers of the motion of our solar system. The transit would be a great opportunity for a public outreach event by the Club.

As it will occur on Monday, November 11, 2019 some advance planning would help to accommodate work schedules and to find a location where folks will be hanging out on a Monday morning.

Here are links to the particulars.

http://eclipsewise.com/oh/tm2019.html
http://eclipsewise.com/oh/oh-tables/tm2019-Tab03.pdf

Claire Stover

This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

Hexagon at Night, Quartet in the Morning

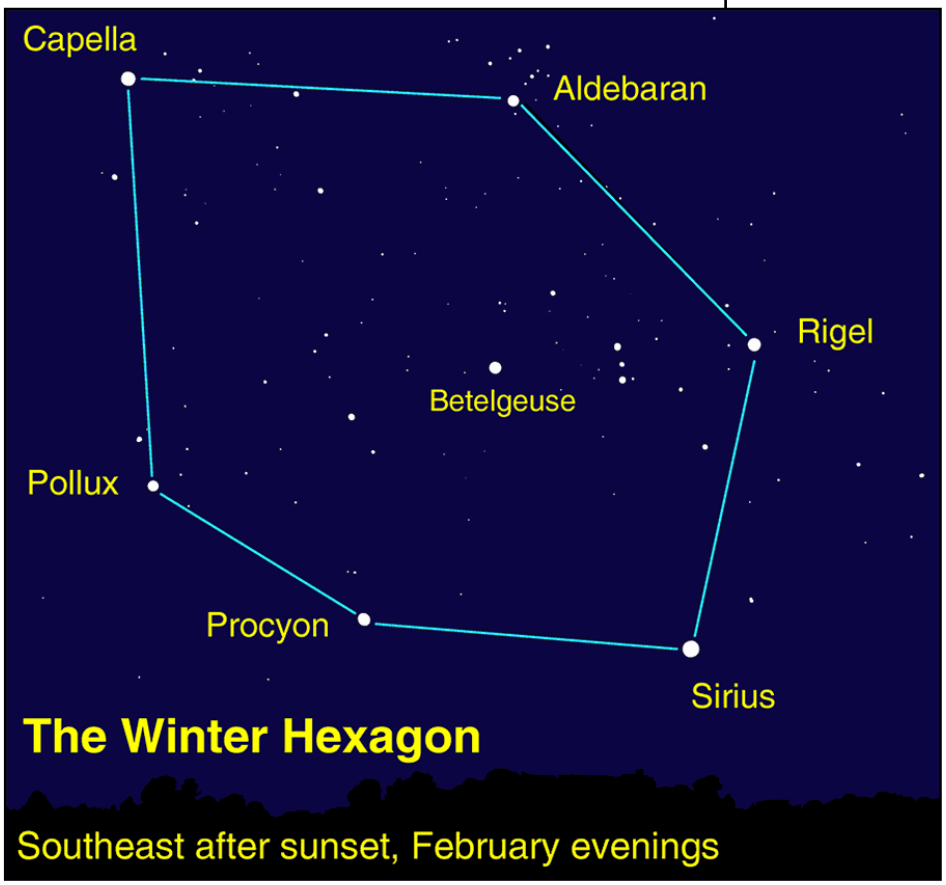
The stars that make up the **Winter Hexagon** asterism are some of the brightest in the night sky and February evenings are a great time to enjoy their sparkly splendor. The Winter Hexagon is so large in size that the six stars that make up its points are also the brightest members of six different constellations, making the Hexagon a great starting point for learning the winter sky. Find the Hexagon by looking southeast after sunset and finding the bright red star that forms the "left shoulder" of the constellation Orion: **Betelgeuse**. You can think of Betelgeuse as the center of a large irregular clock, with the Winter Hexagon stars as the clock's hour numbers. Move diagonally across Orion to spot its "right foot," the bright star **Rigel**. Now move clockwise from Rigel to the brightest star in the night sky: **Sirius** in Canis Major. Continue ticking along clockwise to **Procyon** in Canis Minor and then towards **Pollux**, the brighter of the Gemini twins. Keep moving around the circuit to find **Capella** in Auriga, and finish at orange **Aldebaran**, the "eye" of the V-shaped face of Taurus the Bull.

Two naked-eye planets are visible in the evening sky this month. As red **Mars** moves across Pisces, NASA's InSight Mission is readying its suite of geological instruments designed to study the Martian interior. InSight and the rest of humanity's robotic Martian emissaries will soon be joined by the Mars 2020 rover. The SUV-sized robot is slated to launch next year on a mission to study the possibility of past life on the red planet. A conjunction between Mars and **Uranus** on February 13 will be a treat for telescopic observers. Mars will pass a little over a degree away from Uranus and larger magnifications will allow comparisons between the small red disc of dusty Mars with the smaller and much more distant blue-green disc of ice giant Uranus.

Speedy **Mercury** has a good showing this month and makes its highest appearance in the evening on February 27; spot it above the western horizon at sunset. An unobstructed western view and binoculars will greatly help in catching Mercury against the glow of evening twilight.

The morning planets put on quite a show in February. Look for the bright planets **Venus**, **Jupiter**, and **Saturn** above the eastern horizon all month, at times forming a neat lineup. A crescent **Moon** makes a stunning addition on the mornings of February 1-2, and again on the 28th. Watch over the course of the month as Venus travels from its position above Jupiter to below dimmer Saturn. Venus and Saturn will be in close conjunction on the 18th; see if you can fit both planets into the same telescopic field of view. A telescope reveals the brilliant thin crescent phase of Venus waxing into a wide gibbous phase as the planet passes around the other side of our Sun. The Night Sky Network has a simple activity that helps explain the nature of both Venus and Mercury's phases at http://bit.ly/venusphases

By David Prosper



Caption: The stars of the Winter Hexagon
Image created with help from Stellarium

You can catch up on all of NASA's current and future missions at nasa.gov