



Newsletter of the Pomona Valley Amateur Astronomers

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nightwatch

March 2009

President's Address

At the February meeting, Tony Cook told us about a group of teenagers with a common interest in astronomy. In 1969 their curiosity about the Universe led them to form the Pomona Valley Amateur Astronomers. Several of those original PVAA members now work in space, astronomy, and other scientific fields. What started as a hobby has led to a career.

At our PVAA meetings, when I look out at the faces in the audience, I can't help but notice something. There are few young people. Ironically, a group which was founded by high school students, now has very few members under the age of 35.

I would like to see PVAA make a major effort to bring the excitement and beauty of astronomy and science in general to young people. Teenagers today have so much, but one thing that most of them don't have is an experience and appreciation of the night sky. I am asking for a group of volunteers to work toward giving them an opportunity to get know the vast Universe in which our puny Earth resides. If you would like to help, contact me by phone, e-mail (astro.ron@juno.com), or at the meeting.

Whether as a career or a hobby, astronomy can be a wonderful and fascinating pursuit. As you know, 2009 is the "International Year of Astronomy." Let's spread the word and help the amateur and professional astronomers of tomorrow to begin a lifetime of discovery.

Ron Hoekwater

The Club has a few **2009** calendars from
Astronomy
and they are available at our cost of only **\$7** each.
Please see Ludd to purchase one.

February Star Party

Three parties made it to Cottonwood Springs Campground, Joshua Tree but the stars were on strike. Ron and I got there after sunset just as Karen Chapman and her neighbor showed up. Joe Glynn soon found us, saying that he had been there since Friday and the viewing had been on and off. By the time we got there, the viewing was definitely off. However, we all busied ourselves with discussions about the night sky, motor homes, and trailers. I am trying out my new (used) little trailer (13' long) for the third time and there's always something to learn about it. The other PVAAers were all pretty well versed in motor homes and trailers and so we had plenty to talk about after we gave up on the sky. It was quite cloudy and it seemed to have stayed that way all night. Apparently Ron and I missed out on some live folk music at the ranger's station that evening, more's the pity. I must admit, sleeping in a warm trailer is a deluxe way to retire on a cold night, stars or not.

On our way home, I talked Ron into visiting the Big Morongo Canyon Preserve just off Hwy 62, on the way to 29 Palms and Landers. The Pomona Valley Audubon Society had a field trip there last spring and I had enjoyed it very much. That day, Sunday, the sky remained cloudy and rain seem imminent, but we had a very nice walk at the Preserve which is considered a particularly good place to observe a great variety of birds.

The Preserve is well laid out, the trails are well maintained and the animal life is abundant. Ron especially enjoyed taking photos of the hummingbirds. We can recommend it to other members of PVAA as a nice side trip on the way to or from our star parties in the desert.

Our star party in March is with RAS at their Lander's observing site so, if you have the time, a visit to the Morongo Valley Preserve might be a nice diversion for you.

Laura Jaoui

What Else I Heard at the American Astronomical Society Winter Meeting

As I related last month, I attended the American Astronomical Society winter meeting in Long Beach. Here I will continue my list of the most interesting things I heard.

3. We're celebrating astronomy. This year is the International Year of Astronomy. There are IYA events happening all over the world all year long. A major focus will be bringing astronomy to a wider audience, so museums, planetaria, NASA centers, and astronomy clubs (hint, hint!) will be holding astronomical events geared for the general public. The clearinghouse for US IYA events is online at <http://astronomy2009.us/>.

4. We can't have it all. Every ten years, the astronomical community in this country puts together a major report on the opportunities and priorities for the coming decade. These decadal reports prioritize many of the big-ticket items that are being proposed and help give guidance on which things the astronomers think are most important. Major funding agencies take these priority lists very seriously; past top-rated recommendations include the VLA in New Mexico, the Hubble Space Telescope, and the Spitzer Space Telescope.

The last report was written in economic boom times and many of the recommended projects were built or are currently

in development (including the James Webb Space Telescope, the replacement for HST). The committee working on the report for the coming decade is just getting started and they are looking at much more difficult set of decisions. There are a tremendous number of really good projects out there. Roger Blanford, the committee's chair, said quite plainly "There is no realistic way that the federal budget can support all of the scientifically valuable proposals currently under discussion." For that reason, they will almost certainly have to recommend that several good projects be postponed at least until the 2020's. At the meeting there were plenty of talks and booths for missions and telescopes that might be built if the funding is there, including very large diameter telescopes (much bigger than the 10-meter Keck telescopes), space-based interferometers to search for Earth-like planets around other stars, and cosmology missions to study the details of the early universe. Watch for the final report to come out in a little over a year from now.

So those are a few of the highlights of this year's winter AAS meeting. The next one is in Pasadena in late spring, so I'll try to make it to that one and let you know what's happening.

Dave Kary

February Meeting

It seemed appropriate that we began our 40th Anniversary meeting with something brand new. After all, isn't science all about learning and new discoveries?

Laura Jaoui shared her plans to teach an Astronomical Observing for Beginners course through the City of Claremont Human Services Department (www.ci.claremont.ca.us). The classes are for ages 10 and up and will let participants know about local clubs, museums, and observatories. It will then teach them the basics of observing using amateur telescopes and binoculars. Laura could use Club member's help for the last hour of the class when she will take the students outdoors and look through a variety of scopes at night sky objects. The classes are being offered on Wednesday April 1st and Friday, May 1st from 5 – 8 PM. If you are available to assist, plan on arriving around 6:30 PM to set up. The classes will be held at Alexander Hughes Community Center, 1700 Danbury Ave. in Claremont, next Baseline and Towne Ave. Check with Laura prior to the class date to make sure there were enough signups for the class to be held.

Laura then introduced us to her former high school classmate, Tony Cook. Tony shared with us the history of astronomy clubs in general the United States and of our own club in particular 40 years ago. The first Club in the States was the Springfield Telescope Makers of Springfield, Vermont which was formed during 1920. It was encouraging to hear that this club is still going strong and runs a large convention once a year called Stellafane. The Pomona Valley Amateur Astronomers had its origins with their first meeting on February 7, 1969. Besides Tony, some of the original members were Ed Hartoney, Doug Northway, David Bowling, David Coleman, Brad Bassler, Mark Moran, Jeff Schroeder, and Peter Orland.

Most of the friends were students at El Roble Junior High School or from High Schools in Claremont so they ranged in age from about 13 to 16. These science buffs became interested in space at an exciting time – when they were young they heard of the Sputnik launch in 1957, Yuri Gagarin became the first man in space in 1961, and the Apollo program ran from 1961 to 1975, resulting in six manned moon landings between 1969 and 1972. The young men read up on astronomy and discussed the concepts, some made their own telescopes, and they observed notable events such as meteor showers; from Mt Baldy if they were able to get a ride from someone's parents.

I'd like to think the Club helped to encourage and further their interest in science as many of the founding members went on to careers in the field. Peter Orland is a Particle Physicist at the City University of New York while Tony is the Astronomical Observer at Griffith Observatory in Los Angeles. Jeff Schroeder worked at the San Antonio College Planetarium for 27 years and is now employed by JPL. Other noteworthy names from the Club's past include Webb School teacher, David Chandler, enthusiastic Club promoter and past Club President Harv Pennington, and Pomona College Astronomy Professor Bob Chambers who arranged for the Club to start meeting at Pomona College many years ago.

It was great to hear of the long and esteemed history of our Club and to hear Tony's challenge to us; to not only share our hobby with the general public but to use our public outreach to help inspire another generation of young people to continue their scientific inquiries and studies and so to make their own mark in the world of science.

Claire Stover

References: <http://stellafane.org/>

Club Events Calendar

- March 13, General Meeting
- March 28, Star Party - GMARS at Landers with RAS
- Messier Marathon
- April 1 and 4, Claremont Class and Star Party with Laura Jaoui
- April 2 – 5, 100 Hours of Astronomy public outreach.
Details at www.100hoursofastronomy.org
- April 3, Board Meeting
- April 10, General Meeting
- April 25, Star Party – Mojave River Forks Regional Park
- April 30, Board Meeting
- May 1 and 2, Claremont Class and Star Party with Laura Jaoui
- May 8, General Meeting
- May 22 - 25, RTMC
- May 28, Board Meeting
- June 5, General Meeting
- June 13 - 19, Ron plans to be at White Mountain
- June 20, Mount Wilson viewing with 60”
- Contact Ron Hoekwater
- July 2, Board Meeting
- July 10, General Meeting
- July 11, Tour of Mt Palomar 2 PM.
- July 18, Star Party - Mojave River Forks Regional Park
- July 30, Board Meeting
- August 7, General Meeting
- August 22, Star Party
- August 25, Ontario Library Main Branch, 7 – 9 PM
- September 25 - 27, Second Annual PATS, Pasadena
- October 27, Ontario Library Main Branch, 7 – 9 PM

Claremont Class Update

My idea about an introductory astronomy class with the Claremont Human Services is getting off to a rocky start, but I am NOT discouraged! I was hoping that the catalogue which is delivered to every address in Claremont would be advertisement enough to get a class together, but I was apparently wrong. I have two more chances, April 1 and May 1, (5-8pm).

I am now preparing an 8x11 flier to take to local Elementary and Junior High Schools and get it posted and leave a copy for science teachers. I will make a concerted effort to speak to any science teachers and let them know that the class is available. I plan to buy food to eat while observing during the last hour of the class.

I want to share with the public the astronomical resources that are available for free in our communities and address specific interests of anyone who signs up. I also intend to demonstrate the use of different kinds of telescopes and binoculars. I could use some help from 7 to 8pm from club members. I plan to use my 8” Dobsonian reflector as a demonstration telescope to look at the moon and Saturn, etc. It would be great to have someone demonstrate on other telescopes.

Several of you volunteered for the class that didn’t happen in February. Perhaps some of you can volunteer for April 1? It would be much appreciated and hopefully I’ll get some attendees too!

Laura Jaoui

Palomar Observatory

On Saturday, July 11th at 2:00 PM, the PVAA is touring Palomar. The cost is \$5 per person with a limit of 30 people.

Please sign up ahead of time to reserve your spot..

See Claire Stover to sign up for this event.

PVAA Officers and Board

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- Vice President ..Joe Hillberg.....909/949-3650
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Get info about Mt. Wilson at <http://www.mtwilson.edu/60in.php>

In February we visited Kitt Peak National Observatory at 7,000 ft on the Tohono O'odham Indian Reservatio near Tucson, Arizona. It was a cold winter day and inches of icy snow lay on the ground. Low clouds shrouded the twenty-four optical telescopes and two radio telescopes that stand on the mountain ridges like white pieces in a giant's chess game. A sign proclaimed Kitt Peak to be the "world's largest collection of research telescopes." But as we entered the visitor's center we heard an announcement: "The night observing program will be cancelled because of fog and occasional snow." So we looked around the first-rate museum and gift shop. Outside sunlight was eroding some of the mist. So it was a good time to take a guided tour of the three-story, 4 meter (158 inch) Mayall telescope built in 1973.

As we walked our guide told us that Kitt Peak is operated by the National Optical Astronomy Observatory (NOAO), funded by the National Science Foundation. In addition to the National Observatories, more than eight universities have instruments on the peak. Established in 1958, Kitt Peak is still celebrating its fifty year anniversary.

We learned how the Tohono O'odham tribe initially didn't want scientists on their "sacred mountain." But after elders were allowed to look through a telescope, they proclaimed the astronomers "Men with Long Eyes" who were engaged in a star worship acceptable to tribal laws. Also, some significant leasing deals were contracted. Today, Native American astronomers are given hiring preference at Kitt Peak.

The first instrument, the 60-inch McMath Solar Telescope, was dedicated in 1962. Its striking inverted V shape rose as the original iconic landmark of Kitt Peak. This unusual structure, with its deep underground tunnel, is the largest solar telescope in the world. Its impressive instrument, in coordination with a vacuum spectrograph, analyzes the composition, magnetic field strength, and motion of the sun.

In the decades to follow 26 telescopes would appear on Kitt Peak. The largest of them all is the 158 inch Mayall from 1973. High on a three-story base, it would become the peak's second landmark.

Now, as we walked up a steep winding road toward the Mayall telescope, we could see it looming up on its rocky point like a white lighthouse that gathered light at night rather than projecting it. Its watchtower form had observation windows just below the dome housing the telescope. An elevator took us up to this 360-degree enclosed observation deck. What a dramatic view of the Sonoran Desert! The clouds had risen and it seemed that we could see forty miles in all directions, even down into nearby Mexico. Next door was the newest (1994) 3.5 meter (138 inch) WIYN Telescope housed in a geometrically angular dome. It's operated by a consortium comprised of the Universities of Wisconsin, Indiana, Yale, and NOAO. Below us lay a small city of dozens of domes and a collecting basin for catching rainwater to be stored in large tanks. No outside water is pumped to the top of this remote desert mountain. At the other end of this white city the huge V of the McMath sunscope jutted up on its rocky point. Miles behind that, a gigantic natural dome of black volcanic rock rose into the low clouds. Reluctantly leaving the impressive view, we went inside the dome where the great telescope rested like a sleeping colossus ready to be awakened when "good night seeing" returned.

Out beyond this peak of the Men with Long Eyes, lie other members of the Southwestern Consortium of Observatories for Public Education (SCOPE). Further south in Arizona is Whipple Observatory operated by the Smithsonian Institution. Over in Sunspot, New Mexico, is the National Solar Observatory and Apache Point Observatory, home of the Sloan Digital Sky Survey. Nearby in Socorro, New Mexico is the National Radio Astronomy Observatory with its array of 32 giant dish antennas. This photogenic icon has appeared in movies like Contact (1997). Farther east, is the University of Texas' McDonald Observatory known for its NPR Radio features. No, the dome is not shaped like a hamburger.

While looking at the enormous 158 inch Mayall scope I asked what they were going to look at during a public night observing program. They were concentrating on the constellation of Leo (Lion). Here, Saturn and the new comet Lulin were at their brightest.

I knew Saturn was close and going through its ring crossing period which happens every 13 to 15 years. This is when Earth's point of view crosses the rings turning them from a familiar tilted ring position into a thin edge. It won't happen again until 2025. Last November 27 they were nearly invisible in their thinness, and they're still relatively thin. This "disappearing" of the rings drove Galileo crazy when he first saw them with a small telescope in 1610. He thought Saturn had two huge moons, one on either side, and when they "vanished" he could only say, "...whatever they are they'll be back again." But he hated not knowing what he was looking at. It was this periodic vanishing act that would lead Christaan Huygens in 1655 to propose the only logical explanation, that Saturn had "...a thin, flat ring, nowhere touching the planet." In 1676, Giovanni Cassini discovered a gap in the rings (Cassini's Division) and felt this proved that they were made up of innumerable fragments. But many held on to a belief that they were solid like a giant racetrack. Then, about 1850, stronger telescopes spotted the body of Saturn through the rings. See-through rings could only be "orbiting particles."

Near Saturn now, the new comet Lulin darts backward through our skies. It's scooting at a remarkable speed of 5° degrees a day and will pass through Cancer into Gemini by mid March. An odd comet moving backward along the ecliptic line of the zodiac. It photographs with a greenish tint and has two tails pointing in different directions. Its dim gas tail and its dust-spike tail give it a green "flying saucer" appearance. It was discovered in 2007, by Quanzhi Ye, a 19-year-old student in mainland China. He was examining plates from a Near Earth Object Survey conducted by Taiwan's Lulin Observatory. This scientific connection between mainland China and Taiwan has been called by the media "a Comet of Cooperation." In February, Comet Lulin is at its closest, but at 5th magnitude it's not easily visible to the unaided eye. No one would see anything but clouds tonight on this peak chosen for its clear skies.

So, as scattered snowflakes reappeared, we left Kitt Peak National Observatory. As soon as I got home I turned my 8-inch telescope on Saturn, a yellowish ball with a line drawn through it. Nearby was Comet Lulin, the fuzzy ghost of a fast-moving flying saucer. I stared. Did it seem little green, or was it just my imagination?



**Speaker Tony Cook
at our February Meeting
Photos by Ron Hoekwater**

