



Newsletter of the Pomona Valley Amateur Astronomers

Amateur
astronomers
just get better
looking

Pay club dues at the General Meeting,
or by mail. \$30 individual, \$40 family.

Volume 25 Number 10

nightwatch

October 2005

President's Address

Board member, Larry Pall decided not to run during our last PVAA election. (Larry has however agreed to keep doing the raffle at the general meetings.) Sherry Martinez kindly volunteered to replace Larry on the board. After several years of faithful service, in September, at the first meeting of the new board, Ray Magdziarz asked to step down as editor of the *Nightwatch*. Sherry has again volunteered to take on the assignment. I wish to thank Larry, Ray, and Sherry for their efforts in making PVAA a better club for our members.

In the next few months we will be having several special events. On the evening of Thursday, October 13th we will be having a public star party at Barnes & Noble Booksellers on Foothill Blvd. in Rancho Cucamonga. Bring out your telescopes and your binoculars.

On October 28-30 we have a joint star party with the Riverside Astronomical Society at their GMARS (Landers) Observing Site. During the day, the annual *Starry Nights Festival* will be just few minutes away, in Yucca Valley at the High-Desert Museum. At the museum, several guest speakers will be giving presentations.

On November 11 we have our observing session with the 60-inch telescope on Mount Wilson. If you have signed up to go, then mail your check to the club PO box or get it to Ludd at the October general meeting. Mars will be relatively close and high in the sky and should look great through the 60-inch.

The December 9th general meeting will be our annual PVAA Holiday Dinner at Jouni's Café on Central Ave. In Upland. As we have for the last few years, we will be having a drawing with loads of door prizes.

Bill Dean (the first speaker at our September meeting) has agreed to bring several solar telescopes out to Claremont on Saturday, January 14th for a public solar star party. Some of our own members will be bringing their own solar telescopes too. The solar star party will probably be at a city park. When I know more it will be announced in the *Nightwatch*.

I am still working with Dwight Holmes of JPL to see if we can have a tour of the Deep Space Network facility at Goldstone, north of Barstow. He spoke to us

Star Party Sites

- (MBC) Mecca Beach Campground
- (CS) Cottonwood Springs campground, Joshua Tree Natl. Pk
- (CC) Cow Canyon Saddle, near Mount Baldy Village
- (MS) Mesquite Springs campground, Death Valley National Pk
- (CWP) Claremont Wilderness Park parking lot
- (KD) Kelso Dunes
- (WM) White Mountains (Grandview)
- (CGT) Calico Ghost Town Campground
- (LNDRS) Riverside Astronomical Soc. Landers site
- (BSMS) Blue Sky Mtn. Summit (Go to PVAA website)

PVAA Events Calendar

Month	Star	Star	General	Board
Oct	CS	1	14	6
Nov	LNDRS	Oct 29	18	9
Dec	MS	3	9	1

about a year ago.

So as you can see, in addition to our regular meetings and star parties, we have several exciting and fun events coming up in the next several months. I hope to be seeing many of you at one or more of them.

Ron Hoekwater

September General Meeting

Five visitors joined our meeting. Dana, Gary, Cameron, Gary and Laura. We look forward to seeing them all again soon.

Ron reminded us of our upcoming Friday, November 11th trip to Mount Wilson. Please let him know if you would like to attend. Over 15 people are signed up so far— a maximum of 25 can be accommodated. We are still working to arrange a tour at the Goldstone radio telescope facility and will keep you posted when we have a date.

Ludd reminded us that it's yearly dues time again. Please mail in your \$30.00 for an individual/\$40.00 for a family membership or bring it to our next monthly meeting.

We have a few more copies of Astronomy Magazine's "Explore the Universe 2006", which previews the sights for the coming year and has nice summaries of recent space exploration missions for \$6.00 each. Get one to read up on what to expect in the skies next year! In case you need even more reading material, the Club can also get you a good price on the following magazines: Astronomy for \$29.00 per year or Sky and Telescope for \$32.95 per year.

David Gardner, employed by Lockheed Martin, gave us some space news. The rocket was chosen for a planned return trip to the moon by 2018. The Mars Reconnaissance Orbiter, which lifted off August 12, 2005, refined its trajectory and is still speeding on its way to the Red Planet. Space Exploration Technologies received a contract to launch up to 21,000 pound payloads into low Earth orbit. While all NASA facilities survived Hurricane Katrina intact, the Johnson Space Center, located 20 miles southeast of Houston in a low-lying area surrounded by bayous, was evacuated on Wednesday, September 21st. Hurricane Rita landfall occurred the following Saturday morning, September 24th. As of the writing of this article, staff hadn't returned yet, but news reports say hurricane winds had slowed from Category 5 to 3 by the time land was reached and the Houston area was spared a direct hit. Ground control of the International Space Shuttle was handed over to a Russian space agency facility outside

of Moscow during the evacuation. By the time you receive this newsletter we should all know how the Space Center fared in the storm.

PVAA e-mail

The club would like to have the e-mail addresses of those members interested in being informed of events which occur at times which are not able to be put into the newsletter. Those interested in getting this information, send your e-mail address to Ron Hoekwater at astro.ron@juno.com

Mars Mount Wilson Trip

PVAA has reserved the 60-inch telescope on Mount Wilson for the night of Friday, November 11, 2005. For some this will be a holiday, Veteran's Day. November

PVAA 24 HR. Hotline.

Get the latest news on the star party, club meetings, special events and astronomy happenings. call 909/596-7274

Visit our website at www.pvaa.us

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11th is 12 days past Mars's closest approach to Earth and 4 days past opposition. It is 4 days before the full moon.

For PVAA members the cost of a night observing with the 60-inch telescope is \$60.00. For non-members it \$75.00. Send a check to PVAA, PO Box 162, Upland Ca 91785 or bring it to the October 14th meeting. No one can make any guarantees as to the weather on either Earth or Mars. Mount Wilson is known for its great seeing, but it varies from night to night. Mars sometimes suffers dust storms that completely blot out any surface detail. There will be no refunds. If clouds or wind prevent observing we will be assigned another night with the telescope.

Those who wish to attend should e-mail: <astro.ron@juno.com>. Don't be left out. Signup soon as the absolute maximum permitted to be in the dome is 25.

Ron Hoekwater

Featured Speakers

It was Solar Night as we heard from two highly experienced observers in this relatively uncommon field. Our own Club mirrors the ratio of daytime to nighttime sky watchers I think. While almost all at the meeting owned telescopes and binoculars for dark sky observations, only a couple of hands went up when we were asked who has solar equipment. Bob Branch, who regularly reports to us on the happenings of our sun, observes daily and has been reporting his solar sunspot counts for years. Larry Pall has a Coronado scope which has made an appearance at a few of our recent events—where he always has a long line waiting to look through the eyepiece.

Bill Dean was first up—he used to work for Coronado Instruments (recently purchased by Meade). His specialty is solar observations and both he and our next speaker had just finished a busy week with the sun. It began on September 7th with a huge sunspot which came around the eastern limb. As soon as it became visible, it exploded, in one of the brightest X-ray solar flares ever observed with modern equipment. The spot produced 8 more X-flares, along with shortwave radio blackouts, auroras as far south as Arizona, and of course the potential for great visible light solar observations as well. Scientists are still studying why this activity is still so high when we are about to reach solar minimum in 2006. Sunspot counts have declined as expected over the last 5 years, and are the main source of solar activity as their magnetic fields become unstable and explode into CMEs and solar flares. The few spots there have been this year, though, are producing a lot more activity than usual. Modern satellite observations only started in the mid-70s so we don't have a lot of history to draw on but at the last minimum in 1996 there was also an unexpected surge of X-flare activity, even though sunspot counts remained low. It remains to be seen whether this pattern will repeat in the future. The Club will work with Bill to arrange a visit to one of our upcoming star parties where he will bring his

solar observing equipment. Join us then to learn about our closest star, Next to the podium was Gary Palmer. Gary has been a photographer from a young age— he began by operating his family's 8mm camera as a child, moved on to become yearbook photographer for his high school and is currently in the midst of a 32 year career as lighting designer and cinematographer for Paramount Pictures. The move to solar photography began in 1999 during research for a visual effects project for the movie "Mission to Mars." Gary began with night time viewing, as do most telescope operators. His desire to expand his knowledge to observations of our closest star led him to begin solar observations using Coronado hydrogen alpha filters. The hydrogen alpha wavelength (656.3 nanometers) is a prominent part of the solar light spectrum since the sun, by weight, is made up of 75% hydrogen.

Given his interest in photography, it was a short journey from looking at to recording what he saw. He was soon involved in solar photography. Gary's lecture was titled "Solving the Solar Imaging Puzzle" and indeed his description of the process sounded just like what we go through to assemble that 1000-piece puzzle of sailboats on the water. We start by sorting out the edges, then filtering the various shades of blue found in the sky and the water into separate piles. And then comes the piecing together into a beautiful and complete image. We resort to comparing the subtle puzzle piece shapes to put together the last and

Joan Eisberg to Speak

Our speaker for October is PVAA member Joann Eisberg. The title of her presentation is "A Brief, Bright Pattern: Cosmological Debate in the 20th Century."

Ms. Eisberg has a PhD in the History of Astronomy from Harvard University, and she is particularly interested in the history of cosmology and galaxy studies. After having received a doctorate in the History of Astronomy from Harvard, she taught at several schools including the University of Wisconsin. There she taught Astronomy for her first year. During her second year at the University, she worked as the administrator of the school's Women in Science program. She then moved back to her home state of California because she thought Wisconsin was too cold. In California, she has taught at Cal Tech, Citrus College, Harvey Mudd, and University of California, Santa Barbara. She taught at UCSB for three years before coming to Chaffey College. She chose Chaffey because she liked the program, and the fact that Chaffey has a planetarium.

In her "spare" time, she is writing a biography of the astronomer Beatrice Tinsley. This project moves slowly because of her commitment to teaching Astronomy at Chaffey College, and because she is mom to 6-year-old Annie Kary. Also, she is married to Dave Kary, whom you heard talk about Einstein at a PVAA meeting during the summer.

Holiday Dinner

I know it is only October but you can tell from the chill in the air at night that Fall is upon us and winter is coming soon. Your Astronomy club would like to invite one and all to our annual Holiday Dinner at 7:00p.m. on Friday, December 9th at Jouni's Café on Central Ave. in Upland, near Foothill Blvd. Please feel free to bring along a guest. There will be a raffle again this year and everyone will win a prize. We plan a peasant evening of getting to know one another and sharing some holiday cheer. The menu choices and prices will be in the next newsletter but I wanted you to have the date now for your calendars. I hope to see many of you there!

Claire Stover

most difficult part of the puzzle—the monochromatic blue sky.

Gary's trip to a complete and detailed picture of the yellow ball we think of as the sun is similar. It starts with rolling out his cameras, telescope, filters, computer monitor, and eye-pieces onto the deck in the morning, before rising hot air has a chance to make the atmosphere too turbulent for clear images. Two cameras are used, both cooled in the refrigerator to about 40 degrees F—swapping them out after 20 minutes or so as the first one heats up so rapidly while taking photos of the sun. About 4-500 images are taken during the two short imaging sessions with the cameras.

The next phase can take place at any time and involves sitting at the computer—sorting through which of the many images to keep and which to discard. The best are kept and stacked up on one another using the Keith's Image Stacker software. Re-choosing and restacking are next as the best possible images are created—one for the solar disc and another which offers the best view of the prominences. Both images have variations in several different colors. The next phase in putting the puzzle together requires another tool, PhotoShop 7. Now the disc and prominence pictures in their varied colors are mixed and matched to find the best combination, along with the use of the various other features of PhotoShop which control brightness, blur, contrast, sharpness, and color balance.

All this with the goal to create not his own masterpiece but to use his tools to enhance the features which really are on the sun—mixing and matching images of this extremely bright object to tease out the details which are there so we can all see and study this fascinating object. The added benefit though, is that these processed images come out as a cross between scientific observation and work of art as the beauty of the universe during the day is revealed to us just as in Hubble's long exposure photographs of night sky objects. The puzzle of what's in the sky above us becomes more complete.

Our thanks to Bill and Gary for sharing their passion for the sun and daytime sky. Keep an eye out for Gary's images in both Sky and Telescope and Astronomy Magazines along with the web sites for those publications, spaceweather.com and SOHO's pick of the week gallery. Gary's own website is www.solarminimum.com. Also look for Bill and his Coronado scope at an upcoming PVAA star party.

Claire Stover

Joint RAS / PVAA Star Party

October 28-30 the Riverside Astronomical Society and PVAA will be having their second joint star party at the GMARS Observing Site near Landers. The first joint star party in January 2003 was great. For more info about the GMARS site see: <http://www.rivastro.org/>.

On the same weekend, October 28-29, the High-Desert Museum (next to Food for Less in Yucca Valley) will host a free astronomical celebration just a few minutes away from the GMARS Star Party. The annual *Starry Nights Festival* will feature (at 4:15 Saturday) David Levy, Sky and Tel columnist and co-discoverer of Shoemaker Levy 9. Other speakers include Bill Souder (at 5:00 p.m. Friday), Wally Pacholka (1:00 pm Saturday), Dennis Mammanna (2:00), and our own Alex McConahay (3:00). The festival is co-sponsored by the town of Yucca Valley, the Western Region of the Astronomical League (which meets at 11:00 on Saturday) and the Andromeda Society. Also included is a Friday night reception, raffle, solar viewing, and star parties. For details, see <http://www.yucca-valley.org/departments/museumlecture.html>.

It is a good time to combine the evening GMARS Star Party with some interesting astronomical presentations during the day.

October Public Star Party

On Wednesday, October 13th, after sunset, PVAA in conjunction with Barnes & Noble Booksellers will be having a public star party. The Moon and Venus will be available for viewing. Later Mars will be up. Barnes and Noble has presented us with a fine opportunity to educate and introduce the public to astronomy and to attract new members to our club. For many young and some not so young people it will be their first glimpse through a telescope. In some cases this may lead to lifetime of involvement with astronomy. Barnes & Noble is located in Rancho Cucamonga on the north side of Foothill Blvd. between Haven and Milliken Avenues. It is next to Best Buy and Starbuck's. I hope that many of our members (with their telescopes or binoculars) will be able to attend. If anyone can make it out there earlier with a solar telescope, that would be good too.

October Star Party

Weather for the October 1st star party at Cottonwood Spring was near perfect. During the hottest part of the day temperatures were about 100° but by evening it had cooled and at night it was quite pleasant. The sky was clear and the transparency and steadiness of seeing were good. The sky over the east end of Joshua Tree National Park is not as dark as it was 10 years ago, but it is still one of the very best observing sites within 2 hours drive of home. Mainly to the southwest is becoming light polluted. The north and east are still very good. The 3,000 feet of elevation helps some too.

This was one of our better attended star parties in recent months. When I arrived Frank Busutil was already there with his 8-inch SCT. Mike Hardy and his son Bennet had been at the campground since Friday. During the day they explored the park and in the evening did some observing with a 10-inch Dobsonian. As I was unpacking, Lydia and her son Henry were setting up their camp. They are veterans of Nebraska star parties. Ludd Trozpek brought out his 16-inch Meade and also a parallelogram binocular mount on loan from Bob Akers. Craig Matthews and family were there with SCT and Astrovid Stellacam II camera. New member, Dave Shea brought his SCT to this, his second PVAA star party. And Joe Hillberg brought his very sharp eyes which is good enough.

Right after it became dark and as the east end of Sagittarius was well placed for viewing, Ludd and I looked at Barnard's Galaxy. Barnard's Galaxy is a very low surface brightness nearby dwarf galaxy. It is about 1.7 million light-years away and contains about 10 million stars. There is a great image with some interesting info at <http://www.noao.edu/outreach/aop/observers/n6822.html>.

At some point during the evening Craig mentioned looking at Stephen's Quintet. In light polluted skies the image from his camera is vastly better than what one can see with just their eyes, but in a dark sky like that over Cottonwood it doesn't seem to make as much difference. During a star party for girl scouts in Chino Hills Craig was able to get a very respectable image of the Whirlpool Galaxy (M 51) where as I could barely make it out in my 22-inch.

Around midnight a group of several exchange students came over. They were enthusiastic about looking at the sky through our telescopes. When they got to my telescope we looked at the Saturn Nebula and M 33. Later we looked at the Veil and the Helix Nebulae among other things.

A fair amount of time was spent looking at Mars. It is rapidly getting closer and bigger. I am eager to see it again in the 60-inch scope on Mount Wilson. Here is a site with images and observations: <http://elvis.rowan.edu/marswatch/>.

It was really a fun evening, but I finally hit the sack a little after 2:00 AM. The next star party is our joint RAS / PVAA star party at Landers on October 28-30. I hope to see many of you out there. Happy stargazing!

Ron Hoekwater

MARS Lecture

A member of the NASA Mars Exploration Rover Mission Team, Dr. John Grotzinger from the California Institute of Technology, is giving a lecture on "The 2004 Mars Exploration Rover Mission: Evidence for Water and Prospects for Life" on Thursday, October 13, 2005.

Members and website visitors are invited to view a Live Webcast of the lecture, October 13, 2005 at 7 pm CST. The webcasting software requires viewers to download a small plugin, but it is very simple and quick to install.

A link to the details of the lecture and the webcast can be found at:

<http://www.esi.utexas.edu/outreach/ols/lectures/Grotzinger/grotzinger.html?pid=astgrp>

Saturn
Saturn has beautiful
rings. Saturn has bright
colors. Also Saturn is the 6th
planet from the Sun.

