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Amateur astronomers just get better looking . . .

nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Volume 27 Number 6-7 ***nightwatch*** **June-July 2007**

President's Address

I write this having just returned from 10 great days and glorious nights at White Mountain. We had such a wonderful time, I wish more of you could have been there. We were able to do some observing every night, but one and two of the nights were fantastic.

I have been informed of an event, called "Cosmos in the Classroom" About 200 of the leading astronomy researchers and professors will be in Claremont from August 2nd to August 5th. There will be great keynote speakers, and very interesting talks. The organizers are asking for some help. They need 4-5 of our members to help out with registering people, and directing them to rooms. In return they will be able to attend the whole event for free. More information on the meeting is at: http://www.astrosociety.org/events/cosmos.html. If you can help out let me know and I will put you in contact with the right people.

Nominations for club offices will be held at the July 27th general meeting and elections are August 31st.

The "Meet the Moon" event will be held at the Chino Hills State Park on July 28th. David Kary will be speaking and we are invited to bring out telescopes for lunar observing. The star party for the Junior Blind of America will be August 19th at Camp Bloomfield. For more information talk to Frank Busutil. We will have a star party for Cub Scouts at Mountain View Park in Chino on August 21st. I hope many of you will be able to help out with one or more of these activities.

Happy stargazing!

Ron Hoekwater

JULY SPEAKER

Dr. Bryan Penprase is July's speaker. Dr. Penprase has worked extensively in many areas of astrophysics, primarily in observational astronomy related to the interstellar medium and star formation. Dr. Penprase most recently has focused his observing efforts to include observations with the Pomona College 1-meter telesccope, and the Keck telescope in Hawaii.

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

PVAA Events Calendar

Month	Star	Star	General	BoardMe
July	**14(WM)**	**23**	**6/29**	**7/19**
August	**11(CS)**	**19**	**8/31**	**8/23**
September				

General Meeting

Ron let us all know that two more astronomy events for the blind are coming up this summer. They are being held at a new location for us - a camp for blind teens in Malibu on Monday, July 23rd and Sunday, August19th. The group is called Junior Blind of America and there will be kids from 11-13 years old at the group's Camp Bloomfield in the Malibu Hills. There will be more details on our website soon, or you can contact Frank at fbusutil2002@yahoo.com. The events are expected to have 80-100 students so we can really use your assistance. Please let Frank know if you can help. I have participated for 4 years now in our event for the Braille Institute of Los Angeles and it has been very rewarding to help people see night sky objects they may not have seen in years and can't see at all without the help of our telescopes. I hope you'll consider joining us on one or both of these dates.

Lee's What's Up covered the area of the sky near Scorpius, where the center of our galaxy is located. The density of gas cloud nebulae and globular clusters here is quite large as we are looking towards the central bulge of the Milky Way. Scorpius is one of the few constellations which I think looks like its name – though the Chinese saw these stars as a dragon and the early peoples of New Zealand thought it was a giant hook which raised the local islands from the sea. Scorpius is a sign that summer is coming soon if you remember the mythological tale of the scorpion fighting with Orion until they were separated to opposite sides of the sky to stop them from battling. As the winter constellation of Orion sets, the summer constellation now rises.

June Speaker

Our speaker for the evening was Jane Houston Jones. Ms Jones began her active interest in science with a 1988 telescope making class taught by John Dobson. Once she completed her 10" scope, she learned to enjoy sharing the sights in the night sky with others and participated in many public events. She also joined astronomy clubs and was President of the Astronomical Association of Northern California for 5 years. This background in bringing astronomy to the public, along with her finance and budgeting experience from working for a bank led her to Southern California and NASA's Jet Propulsion Laboratory in 2003, where she works as Senior Outreach Specialist for the Cassini program.

The Cassini probe to Saturn was launched in 1997 and arrived in orbit in 2004, soon after Jane joined the staff at JPL. At the end of this month, the school bus-sized spacecraft will have been in orbit for 3 years of its 4 year mission. In addition to the current ambitious schedule of studies and data gathering, scientists are now starting to plan for more observations past 2008, in the hopes that they can justify enough potential new goals so Cassini's mission will be extended for another 2 to 4 years. Given the wealth of information returned to Earth so far this doesn't seem like it will be a difficult task. A total of 75 orbits around Saturn, 45 of Titan, and 8 around some of the many other moons have been scheduled through 2008.

A mission which received a lot of press soon after Cassini arrived in the Saturnian system was the Huygens probe, built by the European Space Agency and dropped off at Titan for the ESA by NASA. Detailed observations were made as the craft parachuted to the surface of Saturn's largest moon which showed lakes, mountain ranges, dunes, clouds, and even a few craters. Since Titan has an atmosphere and experiences erosion, it is probable that not all the craters formed on the moon are still easily visible, just as on Earth. The Titan's atmosphere contains a greater variety of organic chemicals than our own so this moon which is 1 ½ the size of our own remains high on all scientist's lists as a candidate for a return visit.

Enceladus is the closest large moon to Saturn which is not imbedded in its rings. The surprise discovered here were geysers coming out of cracks in the moon's surface. The geysers contain over 90% water ice, 4% nitrogen, and 3% carbon dioxide.

PVAA e-mail and hotline

Those interested in getting information which was not received in time for the newsletter, please send your e-mail address to Ron Hoekwater at

astro.ron@juno.com

To get the latest news on star parties, club meetings, special events and astronomy happenings call

909/596-7274 or

visit our website at www.pvaa.us

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(cont. from p. 2)

The moon Iapetus has an unusual ring of mountains girdling its equator. Not only is the formation odd but they are huge – the low gravity of the moon has allowed them to exist at the fantastic height of 20 times the height of Mount Everest.

Not only did Jane show us some fantastic photos and videos taken by Cassini over the last almost three years, she advised us to keep our eyes open for the view of Saturn from Earth over the next month. Bright Venus and the ringed planet will move closer and closer together during the month of June, reaching conjunction late in the month. Keep an eye on the crescent moon as well during this time as it joins the other two bodies in the night sky.

Thank you so much to Ms Jones and her technical assistant and husband, Morris, for a wonderful evening sharing the new discoveries and beautiful sights around the 7th planet form the sun.

Claire Stover

Grandview Star Party

Grandview Campground in the White Mountains definitely lived up to it's name for the July star party. On the best nights the views were awe inspiring. On a clear night at Grandview when I look up at the sky, I am overwhelmed by the magnificence of the Universe. Everyone should have the opportunity to see the night sky like this at least once.

As White Mountain is one of my favorite places, I went up on Friday, July 6th, 8 days before the scheduled star party in order to take maximum advantage of this observing site. On the day I arrived lightning ignited several fires in the vicinity of Independence and Big Pine. Fortunately none were near Grandview although I could see and smell the smoke. The smoke did affect the transparency of the atmosphere for the first 3 nights, however a mediocre sky at Grandview would be a terrific sky at most sites in southern California. As the fires came under control and the wind changed directions, the clarity of the air improved.

As conditions were excellent by the middle of the week, I decided to look for the "Einstein Cross" behind the galaxy known as "Huchra's Lens." Several years ago Jeff Felton gave me some sky charts showing the location of this and other gravitationally lensed quasars. They proved to be an indispensable aid to finding this object. (I had actually looked for Einstein's Cross once previously, but on that occasion failed to see anything.)

After maybe an hour of searching and double checking the charts to confirm that I was looking at the right patch of sky, I spotted the lensing galaxy (PGC 69457). The galaxy appeared as a small, faint smudge of light. Near the center of that smudge of light was a faint stellar like object. At the time I took this for the core of PGC 69457.

I continued to observe the object for about 45 minutes. Now and then I would see other very faint star-like objects pop briefly into view and then disappear again. Some of the objects were near the core of the galaxy and others were farther out. I have since read that the components of the lensed Quasar which are farthest apart are separated by less than 2 arc seconds. This being the case, I now believe that most of the objects that I was glimpsing fleetingly were faint foreground stars. Some may have been components of the Einstein Cross, but mostly I think that I was seeing the light of the Quasar and of the core of PGC 69457 all jumbled together. So, "saw" might be to strong a word for my observations of the Einstein Cross, but I believe some photons from the quasar hit my retina and created an impression.

I was excited to have had any perception of this amazing object. The Einstein Cross has a redshift of 1.695. It's distance is estimated at 8-9 billion light-years, making it the most distant object that I have "seen."

Back to the star party, John, Claire, and Lucy Stover drove into the campground on Thursday night. In the dark, we did not see each other and I only discovered that they had arrived on Friday morning. It was great to have other club members with whom to share the sky. Later that same day Joe Hillberg pulled in. Bill Connelly and Ken Crowder also arrived Friday, but unfortunately we didn't see each other until they had already setup. Because of this our telescopes were a couple of hundred yards from each other. On Saturday Justine Singer and Jerry Nogy joined the party. A family from one of our Ontario City Library public star parties also came up to observe. It was fun to get to show enthusiast newcomers to astronomy the sky from such a wonderful site.

During the days, we visited the Bristlecone Pine Forrest and explored the area around Grandview. Down in a somewhat accessible valley, we saw an old miner's cabin. Actually I'm not sure of the age of the miner. However, I was told that the cabin has been there for over 100 years.

I think everyone enjoyed themselves. I know that I did. I only wish more of you could have been there.

Our next star party is on Saturday, August 11th at Cottonwood Springs. I hope to see many of you under the dark skies of Joshua Tree National Park.

Ron Hoekwater

Project Bright Sky…. Visual astronomy for blind individuals
Takes Off to new Horizons
Frank Busutil

So much has happened with our efforts to bring visual astronomy to blind individuals that every time I sit down to write about what we are doing something new happens and the story never gets written. Finally here is what is going on.

In April we conducted what was by all accounts our best star party for the blind students of the Los Angeles Braille Institute. The weather and technology combined to provide a memorable event. We observed Saturn, it's ring system, many lunar features and deep sky objects such as the Orion nebula and the globular cluster M3. Many thanks to Ludd, Joe, the Stovers,Bob Akers, Jim Bridgewater,Sherry Martinez, Ranger Elize Van Zandt, and the entire Braille Institute staff, who made this happen for the fourth year in a row.

Our work with blind individuals now has a name, Project Bright sky. Ask me how we got the name. it involves a newspaper reporter who asked me a very important question.

This Summer we are conducting 3 astronomy sessions for the Junior Blind of America at their Camp Bloomfield, located in the Malibu Hills. July 7th I am giving a brief talk on a Journey through the Solar system featuring a not so mysterious planet anymore, Mars. We will look at things like what do you wear on Mars?

July 23rd and August 19th Project Bright Sky will be hosting astronomy days at Camp Bloomfield for Blind children from all over the United states and some other countries. Our event will include astronomy talks, a telescope expo and an evening star party. Many thanks to Ludd, Claire, Jim, Laura, Bob who all plan to attend with scopes and tons of knowledge.

September 2007 brings on a whole new dimension for our project. We will be conducting a 4 week course titled, "High Speed Impacts And Explosions On The Moon." The course will be for the adult blind clients of the Orange County Braille Institute. Craig Mathews and Danny Perry have volunteered to be our project's lunar imagers for this event. Both are accomplished imagers and will bring a great deal of quality experience to our course. Vivian Hoette from Yerkes Observatory will print our lunar images in a thermoform, tactile format so the images can be seen and studied by anyone regardless of their vision acuity, from sighted to totally blind.

The near future will have Project Bright Sky students of all ages remotely operating, via the internet, astrophysics telescopes located in the New Mexico Skies Observatory, elevation 7,3000'. These telescopes and cameras are owned by the Tzec Maun (pronounced Te - Zec - Moan")Foundation and are available Free of charge to approved projects. Our project's blind amateur astronomers will conduct several CCD imaging sessions with these fine instruments.

In 2008 We have been invited by the Tzec Maun Foundation to receive the training necessary to operate remotely their the soon to be built 1 meter telescope for imaging work. This will bring a whole new dimension to blind amateur astronomy.

One of the things I find great about PVAA is the numerous outreach programs available. Project Bright Sky is another way for you to get involved with this special part of our hobby. Contact me to see how you can take part fbusutil2002@yahoo.com

From OCA website, for talk by Frank Busutil on 7/13/07

Project Bright Sky - Astronomy for the blind

Frank Busutil, Project Bright Sky

In 2004 Frank Busutil wondered what concepts do blind individuals have of the universe and could they intellectually enjoy it. This question was presented to the Los Angeles Braille Institute and the answer was astonishing.

Not only could blind individuals enjoy the universe, but many could actually see it.

Project Bright Sky, along with The Pomona Valley Amateur Astronomers free outreach program, provides visual astronomy opportunities, astronomy courses and summer camp observations for blind individuals.

Through Project Bright Sky telescopes and technologies, many blind individuals are seeing the universe for the first time since loosing their sight. Others are registering mental images of the universe that they will carry for life, as they are seeing the universe for the last time before progressive eye disease renders them completely blind. Individuals who cannot see print on paper are able to see craters and mountains on the moon, Jupiter, Saturn and through CCD video observing many deep sky objects.

With moderate amateur astronomer equipment and technologies, legally blind individuals see more in space than they do in their everyday lives on earth.

The OCA recently went on to nominate Project Bright Sky for an Astronomy Magazine award.