

# PAStimes

Phoenix Astronomical Society  
[www.pasaz.org](http://www.pasaz.org)

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PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

## May 3 PAS Meeting

By Terri, Event Coordinator

Congratulations to the following PAS Officers! At the May meeting, we had our PAS Elections. For President, we have Bruce Wurst, continuing from last year. That means Rod Sutter is still Past President. For Vice President we have Terri Finch, continuing as Event Coordinator. For PAStimes Newsletter Editor, Don Boyd, and for PAS Treasurer, Mike Maron. Their photos will show up in the newsletter, over the next several months, space permitting. John Pulis is staying PAS host, which is a directorship. And Chris Johnson is staying as Webmaster, also a directorship. Directorships are not voted on. They are made or dissolved as needed.

We gathered in G-147, which will be the last time we use G-147 for a meeting room. Quick reminder... starting in September, we will have a designated room for the use of our Meetings, thus the meeting location will not change once we know what room we are in, for that school season. However, if we have a big name speaker, like we did with William Hartmann, we will have those meetings in the Q building. But for Fall of 2012, all of our speakers will be in the new room. Watch for an announcement in the newsletter, in email, in person, of what room we will be in, as soon as I know what room it is. So, all PAS Meetings and Meeting of the Minds will be in the new room.

Now, to remind you... all Telescope Workshops, Indoor Astro Events, and other events on the PVCC campus that require a classroom near the telescope dome, we will still use G-147. Only all our meetings, where by we don't need use of the telescopes, will be held in the new room.

So, we were setting up the meeting and realized our Guest Speaker, Rogier Windhorst was missing. I checked my phone to find out that Rogier had called me, I didn't hear it, so I took a moment to call him back. He was in the G building but not where we were, so I asked Jenny to help him get to us. In the meantime, we enjoyed a little more pizza at the pizza party and started the meeting.

We opened with announcements & Elections. Then we opened it up for any announcements by anyone present because Rogier wasn't quite ready yet. Then Rogier took the floor. The presentation was awesome! There were so many comments about how well done, well organized, how wonderful the presentation was, that I got requests to have Rogier return for another presentation in the near future. Rogier, You did fantastic!

Attendance was way up for this meeting. I counted 40 plus Jenny Weitz & Dave Hellman. The pizza was all but gone by the end of the meeting. Good thing Rogier was able to grab a slice or two. Since Rogier wanted to do the meeting slightly different, I let him. He talked for about an hour, then took a 10 minute break, then talked again for about an hour. I thought that was a great idea and it gave him a chance to grab some pizza and cookies.

His visuals were interesting. He borrowed an Earth ball from Mike. He used a cookie crumb to be the satellite around the earth. It was very effective and there was some humor to his presentation. I always appreciate humor. It helps the speaker know if the audience is paying attention, to hear them giggle at a joke or something funny.

I really think this was one of our better meetings for the turnout and the topic, and the guest speaker, and, don't forget, all the positive feedback I got about this speaker.

I was disappointed in the amount of donations to the snack fund we got this time around. Last time PAS Paid for the pizza, everyone gave a little for the pizza to help PAS Pay for the pizza. This time, the amount wasn't worth buying the pizza. It's ok to enjoy the pizza, but a donation of whatever spare change you have in your pocket, would have been greatly appreciated.

Our next meeting is September 6. Be sure to sign up to do a mini presentation of 10 minutes to 30 minutes. If there are enough members signed up, we can cut back on the length of time available, if needed. We hope to see you there! §



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## Upcoming July-Aug PAS Events

By Terri, Event Coordinator,

[Events@pasaz.org](mailto:Events@pasaz.org)

Upcoming events list:  
<http://www.pasaz.org/forums/downloads.php?do=file&id=49>

Remember, we are in the midst of the Phoenix Monsoons. An event can be canceled at a moments' notice. Please be sure to RSVP if you plan to attend so we can inform you if an event has been canceled due to weather.

### July 2012 Events:

**July 3:** Private Event - by Invite Only. Mike's Fireworks party & Movie Night. Potluck 6pm. Bring a main dish to share & a drink to share.

**July 8:** FREE Telescope Workshop at Bookman's 19th Ave & Northern, 3:30pm to 5:30pm in Musical Instrument section of the store. RSVP is required. Please provide type of scope & number in your party, when you RSVP.

**Jul 10:** CTCA (Private) 9-11pm. RSVP with Joe. PAStimes Star Tour Members only.

**July 21:** Star Party / Potluck at Mike's home in Carefree. RSVP is with Mike to attend Primefactory@q.com. Potluck is at 6pm & Star Party starts at 8pm. Event happens rain or shine. Should star party be canceled, a Lecture or movies could happen. This event is Public by Invite, meaning, RSVP or be invited.

July 24: Back up date for Jul 10 CTCA.

### August 2012 Events:

**Aug 5:** FREE Telescope Workshop at Bookman's 19th Ave & Northern, 3:30pm to 5:30pm in Musical Instrument section of the store. RSVP is required. Please provide type of scope & number in your party, when you RSVP.

**Aug 14:** CTCA (Private) 8:30-10:30pm. RSVP with Joe. PAStimes Star

Tour Members only.

**Aug 18:** Star Party / Potluck at Mike's home in Carefree. RSVP is with Mike to attend Primefactory@q.com. Potluck is at 5:30pm & Star Party starts at 7:30pm. Event happens rain or shine. Should star party be canceled, a Lecture or movies could happen. This event is Public by Invite, meaning, RSVP or be invited.

**Aug 26:** FREE Telescope Workshop at Bookman's 19th Ave & Northern, 3:30pm to 5:30pm in Musical Instrument section of the store. RSVP is required. Please provide type of scope & number in your party, when you RSVP.

**Aug 28:** Back up date for Aug 14 CTCA.

**Sep 6:** PAS Meeting at PVCC Main Campus, Location LS-205. Everyone Welcome - Members' Night - sign up for mini presentation with Terri. 7pm to 10pm. See you there!§

## Desert Botanical Gardens Apr 20

By Terri, Event Coordinator

It was a hot sticky day. William Finch & I arrive at DBG about a half hour early. We flagged down one of the electric carts while waiting for Bruce Wurst to arrive. About the time the cart arrived, so did Bruce. We were transported with our scopes, over to the Agave Pit. We set up, and about 20 minutes prior to the start of the event, my ride came to pick me up and take me to the presentation room. Steen was doing a presentation about telescopes. He then turned the evening over to me, & I informed the group of about 22 adults, about what we'd see that night in the sky. I opened with the different types of telescopes, moved to "how to read a star chart," and finished up with Q & A on all the

planets, and which ones we would see that night. Bruce & Steen said I did a pretty good job, for my first time.

Then, we all... the 22 adults, Steen, Bruce and I walked back to the Agave Pit. There, Bruce showed Venus before it set. I worked on polar alignment and caught Saturn in the horizon mush. It got darker, so I did a sky tour with my green laser, for which a lot of questions were asked. Bruce moved to Mars, while I found Alcor & Mizar. While William stayed with my scope, I talked with the people & pointed out other items in the sky, when they'd ask. Bruce moved to Saturn, & I looked for but couldn't find an object, and we realized that at about 8:30 the sky turned thick, as if there

was a blanket over us. We could see the stars, but they weren't crisp. They were more mushy than my Saturn was on the horizon, in fact, Bruce's Saturn was very mushy and it was up off the horizon by that time. So, most of the people had left by then. We had maybe 8 people left, and they all talked with us for quite a while before they also left. About 9pm we packed it up & got a lift from the electric carts back to our vehicles.

It was a great event! The viewing was only from about 7:30 to 8:45, as the presentation was about ½ hour and then the mush got in the way. Everyone seemed pleased with the event. We enjoyed it a lot. Many thanks to Steen for inviting us! §

# Meeting of the Minds Review of Apr 19, 2012

By Terri, Event Coordinator

We opened the meeting with a brief review of the Agenda for that evening. 17 PAS Members & no public were in attendance. 1) Awards Ceremony, 2) MOM's Topics, 3) Mini Officer's meeting. So, after a brief introduction, President Bruce took the floor from Vice-Prez Terri & began awarding & congratulating PAS Members for their continued support of the club. 21 awards were given for this category. After the group photo, we all sat down & Bruce continued with the Messier Marathon Award given to Eric Steinberg.

We then turned to the MOM's topics after a 5 minute break. Sam was first and brought up the idea that we should have it reflect on the site what it says in the Booking Doc, as far as what we charge and who we charge for Star Tours. The topic was about the Scouts, as the main discussion, but other organizations were discussed as well. So, Don & I will make the changes needed to reflect what is agreed upon, who we charge, how much, etc, so that the Booking Doc & PAS website say the same thing.

The next topic had to do with Joe's donated scope. We had Don look it up in the by-laws of the PAS Constitution and in there it doesn't say we can or can not Re-vote on something we voted in the past, but

have changed our mind. So, what we discussed was the retraction of the donation to PVCC of Joe's 12" telescope, for PAS Members to use, instead. Bruce has put a lot of repairs into the scope and says it works wonderfully. So, it was voted we hang on to the scope, and instead, it is possible, but not decided yet, we may donate to PVCC the 12.5" not so portable telescope Bruce is repairing. This scope was donated to PAS about 2 months ago, and would be awesome for PVCC to mount at the Black Mountain Campus, more so than the scope Joe donated. So, at the moment, it was only voted to hang on to Joe's scope for the Club to use, and consider donating the other scope to PVCC. Jenny agreed with this decision.

Another item that was brought up but not talked about for any length of time was the fact that before we go donating any scope or anything to another organization or school, the item should be made available to the PAS Members to purchase, if they want, or vote to sell it on Craigslist or Ebay to raise money for the club. This topic needs further discussion, however, the gist is... don't donate when you can sell and take in the money for club use. The club has several telescopes donated over the years, & we'd like to either see them be used by club members, or possibly purchased by mem-

bers, or sold for money for the club, rather than donating them to another organization. If you'd like to talk about this topic in more detail, bring it to my attention for the next Meeting of the Minds and I'll put it on the Agenda.

The next topic we discussed was the Summer Events or MOMs. It was discussed at a previous MOMs that we should hold some kind of socializing event every month through the summer to keep the members active. In September the attendance at the September and October meetings is so little, I don't like getting a guest speaker for 5 people to show up at the meeting. So, it was suggested we do something Social at least 1 time each month during the summer for June, July and August. We made that decision to try it this year. So, we have the following events.... please look for details in the PAS Calendar. All of these events, due to the Phoenix Monsoons are Weather Permitting. May 31 is a MOM with a Party - bring a snack, & a Public Star Party. June 28 is a MOM with a Party - bring a snack, & a Public Star Party. July 21 is a Potluck & Public Star Party at Mike's - with a back up plan of a Lecture if it is bad weather. July 26 MOM is Canceled. Aug 18 is a Potluck & Public Star Party at Mike's - with a back

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## NIGHT SKY NETWORK Awards Ceremony of April 19

By Terri Finch, Vice President

newsletter team.

These awards are given to PAS Members who have gone above & beyond what is needed for being a PAS Member. The basis of the award (through Night Sky Network) is to recognize those PAS Members who have done 5 or more public outreach events with PAS in 2011. Since some of the PAS Members do not get the opportunity to do public outreach, we are also awarding those PAS Members who have exceeded in some other aspect that benefited PAS throughout 2011. A few PAS Member were nominated by the PAS general membership. Others are given awards because they deserve to be recognized for their assistance in making PAS a club that is run successfully & smoothly. Many thanks goes to everyone who received this award. 21 awards were given out at this event.

First we would like to acknowledge the many hours of work & effort it takes to make the PAStimes newsletter a success every month. Many thanks are given to the

Don Boyd for Continued Public Outreach Support, Weather Watching & Newsletter production. Don received 3 nominations from PAS Members.

Matt Kohl for proofing the newsletter articles & newsletter support. Matt received 1 nomination from PAS Members.

Leah Sapir for Continued Public Outreach Support, proofing the newsletter & article submissions. Leah received 1 nomination from PAS Members.

Terri Finch for Continued Public Outreach Support, coordinating events & proofing the newsletter. Terri received 1 nomination from PAS Members.

Next, we would like to continue with our Weather Watchers. Through email, Terri sends out notices asking for input on what the weather will be like for a particular event. In answer, many PAS Members have been involved in updating the weather for

events, via email, such that all who are attending those events, know what to expect. Many thanks goes to the PAS Weather Watchers. Now we would like to award them for their continued support in Weather updates.

Tim Jones for Continued Public Outreach Support & weather watching. Tim received 3 nominations from PAS Members.

Bob Christ for Continued Public Outreach Support, weather watching & newsletter submissions. Bob received 2 nominations from PAS Members.

We also have a few liaisons. Without these liaisons we wouldn't have had the opportunity to have events at these locations. Many thanks goes to these liaisons.

Sam Insana for Continued Public Outreach Support, weather watching & the liaison for Desert Botanical Gardens. Sam received 3 nominations from PAS Members.

Frank Insana for Continued Public

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# Meeting of the Minds Review of Apr 19, 2012

up plan of a Lecture if it is bad weather. Aug 30 MOM is canceled.

Another topic that came up was field trips. It was suggested that we get a van, either by renting or borrowing a PAS Member's van, and do a field trip during the summer months. So, a discussion will happen on the PAS List Serv as to where everyone would like to go for a field trip and possible dates. Remember, some PAS Members have day jobs and work Monday thru Friday. We figured we could use Bruce's Van, and Mike's Van to transport 16 people to an event, splitting the cost of gas.

We also talked about the Phoenix College PAS Telescope dome on 15th Ave by the football field. It was decided we would try to contact PC and see if we can't obtain our dome. Jenny is looking into contacting the current person doing the Astronomy classes there.

The next topic was brought up by Eric. Eric found this DVD Astronomy Course

available for purchase and was wondering if anyone was interested in donating to help purchase it, or if PAS Might want to purchase it for club members to check out of the Library. Eric needs to do more research on it before deciding if it is worth the purchase, but will get back to us on it.

And then we took a tour of what might be the new room we will be in for the PAS 1st Thursday General Meeting with Guest Speaker meeting room . We all walked over to the LS Building & because there was a class happening, we didn't get to go in the room, but looked through a door window and discussed where we'd like to have the meeting in that building, if we have a choice. Jenny will let us know what room we have, closer to September. Why is PAS Looking for a new location to have our meetings? As of the summer months, the Library at PVCC will be closing at 8pm. There's no way we can have our meeting end and be out of the Library by 8pm. So, we are seeking a new location on the cam-

pus and the LS building has the largest classrooms, currently. That's the newest building that is a bright light during our star parties by the Telescope Dome.

Jerry did a brief demo on how to make your own, inexpensive Solar Filter for your scope. It was very informative, thank you Jerry.

And Eric was given a few minutes to talk about an Eyepiece set he has for sale, in case anyone was interested in it.

We then closed the MOM so that those who wanted to depart, could. A few stuck around and we held a mini Officer's meeting. The meeting lasted up to 10pm, so by the time we packed up, it was 10:30. Many, many thanks goes to Jenny Weitz for having us there so late at night.

NOTE: If you missed the Awards Ceremony, there is a separate article written about who received an award and for what. Read about it and if you are listed, please see me for award pick up. §

## NIGHT SKY NETWORK Awards Ceremony of April 19

Outreach Support & the liaison for Desert Botanical Gardens events. Frank received 1 nomination from PAS Members.

Joe Collins for Continued Public Outreach Support, Liaison for Cancer Treatment Centers of America & Newsletter Submissions. Joe received 3 nominations from PAS Members.

Renee Collins for Continued Public Outreach Support & her assistance with CTCA events. Renee received 1 nomination from PAS Members.

Along those same lines, we have some workers at the CTCA events (those are PAS Members who get paid to do the event) and other PAS Members Volunteer their time. Many thanks goes to these next two PAS Members for volunteering many hours in 2011 at CTCA & not asking for penny in return.

Chris Johnson for Continued Public Outreach Support, maintaining the PAS web page & volunteering for CTCA events.

Steve Palmer for Continued Public Outreach Support & volunteering for CTCA events.

Then we have the unusual members of PAS who contribute to Public Outreach without a telescope. Or even if they have a telescope, it isn't their main support at PAS

events.

Mike Marron for Continued Public Outreach Support & being PAS's very own Meteorite Man and the center of attention at every star party! Thank you, Mike for your support. Mike received 2 nominations from PAS Members.

Jerry Belcher for PAS Club Support at the PAS Social & in providing homemade plaques for the Messier Marathon & Moon Marathon in 2011. Jerry received 1 nomination from PAS Members.

Ed Wurst for Continued Public Outreach Support & the Party snacks. Ed received 1 nomination from PAS Members.

William Finch for Continued Public Outreach Support. William received 1 nomination.

Then we have those folk who aren't PAS Members, but have been a very vital part of the success of many events at PVCC. Many thanks goes to the PVCC Team.

Dave Hellman for continued PAS Support & liaison for PVCC.

Jenny Weitz for continued PAS Support & liaison for PVCC. Jenny received 1 nomination from PAS Members.

That brings us to our last 3 awards. 2 of these awards are for 2 newer PAS Members who joined us & then got super involved in

PAS Events. Many thanks to these 2 members who have been to many events in 2011.

Dewell Howell for Continued Public Outreach Support. Dewell received 1 nomination from PAS Members.

Eric Steinberg for Continued Public Outreach Support. Eric received 1 nomination from PAS Members.

And last but not least, we must recognize those in charge. This last award goes to

Bruce Wurst for Continued Public Outreach Support. Bruce received 1 nomination from PAS Members.

I'd like to thank everyone who has contributed in 2011 in the many ways mentioned above.

### PAS Messier Marathon Awards

PAS would like to recognize those PAS Members who attempted the 2012 Messier Marathon this past March with Certificates & award one PAS Member with the most objects viewed during the Marathon. At this time we would like to congratulate:

Eric Steinberg: 75/110 objects viewed. Congratulations!

Photos of the Plaque designed by Jerry Belcher for this award as well as the NSN Awards Ceremony photos, can be seen in the PAS Photo Gallery. §

# Antenna's Star Party on April 21

## Sam Insana writes:

On Saturday afternoon, April 21st, several PAS members attended the Antenna star party. This place is about 100 miles west of downtown Phoenix. Frank, Sam, Eric, Ora, Bob Christ, Jerry Belcher, and perhaps a few other PAS members were there along with others from SAC and EVAC. There were about 10 scopes for the evening. Frank and I arrived around 5 pm and found the area to be very warm, with no signs of wildlife. However there were two RVs with amateur astronomers, who said they had been there several days and the viewing was incredible. Frank set up the PST and showed everyone a very large solar prominence, over 100,000 miles high and over 100,000 miles wide, a beautiful loop. I then showed people dozens of sunspots with my 8 inch newtonian and a glass solar filter. Everyone tried to find some shade and sat in lawn chairs or gravity chairs awaiting darkness. Frank hiked the surrounding area and found it had no signs of animal life, just a few cactus. At around 7:30 pm people started viewing Venus, then the Orion Nebula. It became very dark around 8 pm. We were a bit concerned since we could not find the milky way, something of a mystery for such a dark site which has a 2 rating on a scale of 1 to 9. Finally at 2 am the milky way appeared larger and brighter than I have ever seen. During the night, I saw about 2 dozen old favorites that looked so much better because of the dark skies: Trifid nebula, Ring nebula, and M3 and M5 globulars, and M81 and M82 and M51 Whirlpool galaxies looked better than ever. I could put larger magnification on these because of how bright the objects appeared. I saw about a dozen new objects for me, mostly NGCs. The best for me were the beautiful Blue Snowball nebula, and the extremely large Omega Centauri globular. Jerry pointed out that Omega Centauri can be viewed in the low southern sky in April and May. In Eric's 16 inch dob, it looked like you were in the cluster looking out.

Jerry spent several hours helping his friend learn to observe with a scope Jerry gave him. Frank spotted dozens of Lyrid meteors during the night, and some of us were able to catch a few ourselves when having a short break from our telescopes. Bob Christ knocked off a huge list of planetary nebulae he was trying to complete. Everyone appeared to spend the entire night at the site, some sleeping the last few hours, but some of us viewed the entire night. I would recommend this site to anyone wanting to look at deep sky objects. It is a long drive, but worth doing at least once a year. By the way, Jerry recommended an all you can eat buffet at a truck stop off exit 101. Frank and I had a great breakfast there on our way back to Phoenix. Thanks, Jerry.

## Bob Christ writes:

If the view of Omega Centauri alone was the price of admittance, it was well worth the trek to the Antennas site on Saturday. The enticing sky forecasts held, and the best night in many-a-Moon was delivered. I arrived wearing jeans and a long sleeve T-shirt, and that was all I needed until hitting the rack a little after 2AM. A light, pre-astronomical twilight breeze died down and returned around 1AM for a short period of time that actually felt refreshing.

Multiple meteors were seen, some emanating from the constellation Lyra, and the contrail of one meteor actually remained visible for about a second after the head extinguished; not something one often sees.

My primary focus was to work on the Astronomical League's challenging Planetary Nebula Club (PNe) award program, and it was quite the night to do so. I logged 26-objects, including some that require excellent sky conditions to nab such as a 13th magnitude PN, 4" wide, located in a rich starfield: impossible without the use of UHC and OIII filters. One target even required a Hb filter to view it!

It was a wonderful night of viewing, and it felt great to finally be out under the

stars for an event other than outreach.

## Eric Steinberg writes:

We arrived at the Antennas site about 6:15, watching the car thermometer read three digits all the way out. It dropped to a cool 99 as we arrived. Before we even set up, we found Sam and Frank Insana who provided beautiful views of some sunspots and a huge looping solar flare. Also on-site from PAS were Bob Christ and Jerry Belcher, along with a bunch of folks from SAC. Watching it get dark there is always a treat, especially with the realization that well before the end of astronomical twilight, one can see more stars there than in full dark at home. Conditions tonight were not disappointing: clear skies, excellent transparency and very good, if slightly variable seeing. Our evening began with M41 and M42 – the latter again underscoring the difference from in-town – glorious! In total we observed around 40 objects (note to self: next month make a list ahead of time). High points were: more galaxies in Virgo than I could count, the Veil and Crescent nebulae in Cygnus, crisp views of Saturn, watching the Milky Way come up in the wee hours with amazing structural detail, and topping the evening a spectacular view of the huge Omega Centauri cluster above the southern horizon (tip of the hat to Sam). Hard to take your eyes off of. Weather was delightful with just enough breeze to be pleasant. Now just a couple of days to catch up on sleep.... Here's our observing list: M3, M5, M13, M35, M36, M37, M38, M41, M42, M43, M51, M57, M58, M59, M60, M81, M82, M84, M86, M90, M92, M98, M99, M104, Numerous Galaxies in Virgo, including an interesting "double" near Vindamatrix, later identified as NGC 4754/4762, Izar (double star in Bootes), The "Fairy Ring" asterism in Cygnus. NGC: 2158, 2261, 2371, 2392, 4027, 4038, 4361, 4647, 5128 (Cen), 5139 (Omega Cen), 6826 (questionable - difficulty seeing), 6888 (with filter), 6960 (with filter), 6992 (with filter).§

# Bookmans Telescope Workshop May 6

By Terri, Event Coordinator

William Finch and I arrived about 2:40pm. A bunch of people had our tables occupied, so we waited for them to finish up and then we grabbed both tables and 4 chairs. Around 3:20, Don Boyd showed up,

but before he showed up, by minutes Randy Turner wandered in with his ETX90. Don helped Randy mostly. I assisted and William added things at times. We had a great event. The other person who RSVP'd never

showed up. People walked by. Several star charts were taken. Very good event. We will prepare for the next event on June 3. §

## Indoor / Outdoor Astronomy Event at PVCC Apr 26

By Terri, Event Coordinator

It started as a slightly breezy evening, but as the Sun went down, so did the breeze. Attending from PAS was Don Boyd, William & Terri Finch, Eric & Ora Steinberg, & Mike Marron. Additional help was provided by Kevin Adams (PVCC Student), Dave Hellman & Jenny Weitz. We had 3 RSVP's, of which only 1 checked in with me. Thanks so much to Jacob Wentworth from visiting us from Glendale Community College. We had many of Jenny's astronomy students in attendance and the total attendance, not counting PVCC & PAS people was 20. That was a great turnout.

Mike stole the night, as usual. He had a crowd most of the night. He looked so tired

but kept up his energy to share his meteorites. Jenny had made 2 of the Astronomy Survival Boards from the previous event, for display. I did the Moon Demo & Constellation Tubes. I had brought prizes but no kids attended, even though we had some RSVPs.

The night was clear, mostly calm. Eric set up and worked the 16" lightbridge. Don brought his own scope. Everyone enjoyed the Moon, Venus, Saturn and Mars. It was an awesome event. We hope to have more indoor activities for the next "Indoor" event. Plan to attend on Oct 18, 2012. See you there!

Jenny writes: Don had his scope out, Eric had the 16" and Kevin had one of the school scopes out. Eric impressed several of my students with their first view of Saturn. The 5 brightest moons were visible with the 16" One of the drawings I received included the caption "Saturn: Best thing ever!" My students requested a souvenir PAS hand stamp, and Terri stumped them with her constellation tubes. Mike demonstrated that with his new lean and mean meteorite collection that he knows exactly which meteorite is missing when William mischievously decides to test his memory. §

## PVCC Telescope Workshop May 24

By Terri, Event Coordinator

Arrived a little later than planned, but William and I got there in time to see Tim Jones, Bob Christ, Don Boyd, Jenny Weitz all there, helping the public. We had 2 family RSVP's for the Star Party portion of the event. Kory Ambrosich & her three children attended. Sheetal Shetty, her husband and child attended. Then there was a young lady who Eric was assisting (Stacey B., I think) who didn't RSVP but came anyway. Eric was helping her with her scope. Kevin Adams was there to assist as well. The night started with me setting up the hand out table, and a demo table with info and interesting examples of items from the Venus Transit Kit PAS got from Night Sky Network. While I was doing that, Jenny was sharing with Kory's two older gals, how a Supernova happens, doing a demo with a basket ball and a smaller ball. The 2 girls loved it and then made several more supernovae. We then all went outside to help with the star party and take photos before dark. Everyone seemed to enjoy the star

party. Kevin and I took photo with my camera and his, through Bob's telescope. He brought a 9.25" Celestron NexStar GPS. It has awesome views. As the night wound down, we ended up indoors again and by about 9pm, the public had left, so we called it a night, packed up and headed home. Many thanks to Jenny for spending the evening with us, on her day off. School is out! And for the Telescope Team for assisting with this event. It had a small turnout, but it was a good, interested turnout of public. And the weather was clear, warm, breezy but not annoying, and overall nice for doing this event. Many thanks to Kevin for assisting.

Stacey B. writes: I attended the star party last night and I had so much fun! I met Eric, Tim, and Bob and what a great help they were. I was curious to learn more about joining PAS and what the next steps might be. Thanks! Stacey

Kevin Adams writes: A few families

attended to learn about space and to look through a plentiful supply of telescopes provided by PAS. Jenny provided them with numerous facts and demonstrations of astronomical events, particularly about stars. After seeing how beautiful the Moon appeared in one of the telescopes, I raced home (by nearly quadruple the posted speed-limit), retrieved my camera, and broke the speed of sound returning to the Star Party. People panicked and screamed as he crashed through the construction fences and flipped numerous times down the adjoining sidewalk of the Library building. College Security quickly came to the rescue and I told them that I was a professional at driving, and said not to worry about the skid-marks, broken glass, telescope mountings, and tires everywhere because Terri would (probably) clean it all up. The rest of the evening was quiet as we looked at a few local star clusters in the telescopes as well as Mars and Saturn. §

## Desert Botanical Gardens (DBG) Solar Camp June 11

By Terri, Event Coordinator

It was a very early morning, getting up at 5am to shower, eat breakfast, & run out the door to beat the rush hour traffic to get to the Desert Botanical Gardens for this event. Our scheduled arrival time was to be 7:30, but somehow, we were lucky and got there at 7am. William & I got in touch with the cart that would take us to the location for this event. We were setting up in the Stardust Plaza. Photos of this event are in the PAS Photo Gallery. So, We set up the

Doctor (my scope) on the Sun with a filter, and set up the Astroscan on the Moon. This event was a Solar Camp for 24 kids ages 7 to 12. It was scheduled to start 8:30.

So, while we are setting up, folk from the public drift by and we call them over, show them the Sun & Moon. A photographer wanders by and joins us. Then, about 8:45am the kids arrive. This had to be the fastest half hour ever! When the kids ar-

rived, I did a mini introduction of who we were, what we were doing that morning, what they'd see and what we wanted them to notice (sunspots, craters, etc.) and how not to look at the Sun, plus, ask them not to touch the telescopes. Then, we proceeded to divide them into 2 lines, asking them to go from line to line to look, and while they did that, I did Q & A. I had only brought Sun and Moon Lithographs & Sun & Moon PAS Bookmarks to this event. I figured I'd

*Continued on page 7*

# Desert Botanical Gardens (DBG) Solar Camp June 11

be too busy to do Q & A, but it turns out, the gentleman leading the group was already asking questions, so I gave prizes for his question, plus asked Q's of my own. One young boy got his 2 prize limit, and then just answered questions for everyone else to get prizes. He was very smart and into astronomy. He reminded me of me when I was his age. By the end of the event, about 9:15, all the prizes were given out, except for one Sun lithograph and one bookmark. I gave the Sun lithograph to our contact gal, Emily. Before we packed up, we stayed set up another half hour and showed the public

who walked by, and the DBG workers, the Sun & Moon. And to a family of 4, who was visiting DBG and were local, I gave the last PAS bookmark.

Temperature wise it was hot in the sun, even that early in the morning. Tom, our cart ride to and from the location, found us some umbrellas which he set up and we moved so that the kids could hide under the shade while we did our event, and while there were no kids, we used the shade both before & after the event. Many thanks goes to Tom for transporting us and keeping us

comfortable. We enjoyed doing this event and so Emily & I are going to set up another event next year that will include the Sun & Moon again, together in the morning sky. William took the day off of work to do this event with me. Many thanks to Emily for having us. It was an awesome way to spend the morning doing what we love to do!§

## Adams Academy School May 18

By Terri, Event Coordinator

It was a hot afternoon. We arrived at the school at 5:30 for a 6:30 set up time. No food was served at this event. While setting up, William and I showed the Sun to the few who would come out and take a look. The Sunspots are awesome! 6:30 came and the Telescope Team began to arrive. In attendance at this event was: Eric Steinberg, Marc Levison, Mike Marron, Don Boyd, Dewell Howell, and from PVCC, Kevin Adams. Many thanks to the Telescope Team.

This school was so simple to find, easy to get to, a straight shot for us up I-17. Very pleasant. The people there were terrific, full of questions & interested in everything we

had to show. Kevin was a great help. I asked him to hand out the NSN sky charts & Bookmarks from NASA Space Place, one per family. He took care of that & then when he realized there were no more people attending, he disappeared, like a Ninja. I didn't see him leave.

The Principal Sharon Malone thanked us many times for attending. She wants to do another event in the Fall. My contact at this event was Kristi Bencomo. She had arrived at the event in an awesome black dress. I will be setting up the next event with her, shortly.

The weather was awesome, not too hot

after the sun went down. There was a slight breeze, but it kept us cooler. Kristi had supplied red filtered flashlights for the kids to use. The event was to run to 9:30 but Principal Malone was getting tired, so she attempted to, but didn't really get it done that quick, get everyone to leave around 9pm. When I heard what she was doing, I helped out, and that got the Telescope Team to take down their equipment.

Many thanks to Principal Malone & Kristi for inviting us to their school and having us for this event. Many thanks to the Telescope Team for providing so many awesome views. And thanks to Kevin for helping out! §

## Mike's Astronomy Day Apr 28

By Terri, Event Coordinator

Mike was holding a party with a potluck at 5pm on Apr 28. William & I were to attend but were torn between attending Mike's potluck, and another potluck we were invited to. WE opted to attend the other potluck. So, we get to my Banjo Student's home right at 5pm for her housewarming party. We were the first ones there. We were invited to enjoy food, drink, and about 6:45 we leave to head to Mikes. First, we have to swing by the house and swap cars. We had packed up the Vue with the scope and stuff we needed so all we had to do was park the Sonic, jump out of it and into the Vue to go to Mikes. It almost worked that way. We needed a bathroom break, so we went in the house prior to going to Mike's.

We were on the road to Mike's about 7:30. We got up there, it was already dark. In attendance was Don Boyd, Bob Senzer,

Mike Marron (of course, the Host of the event), Ofelia Waters, a cute couple who are planning to join PAS - Tim and Megan. Sam Insana, & a lady who works with horses, who's name I forget. Diane (Mensa lady), and a few others who I didn't know who they were. Since I was very tired from the last 2 days of events, I didn't take out my scope. Sam had his scope. The other couple had their scope, Don brought his. Oh, and Bob Senzer had his scope. So, with 4 scopes and not that many people there, we were set on scopes.

I had heard that the potluck was a flop, meaning, not many people brought stuff to eat. Luckily we had eaten at the other potluck on the way up to Mike's. Sam had brought dessert, a carrot cake. Someone brought cookies and when we got there, the containers were fairly full, but by the time we left at about 2:45am, the cookies were

mostly gone. They must have been good. I didn't have any. There was a pasta dish, brought by Bob Senzer. William and I brought a case of water to the event, purchased using Snack Fund monies. We will bring the rest of the bottles to another event. Not many were used.

We saw a bunch of really cool things this evening. The skies were awesome. Clear as a bell. There was a little breeze which made it a bit chilly by 12am. At the event, Sam asked if we could set up a future event at Mike's in which we do it on the dark of the moon. So, I'm working with Sam and Mike to set that up.

It was a fun event, and the people who came, from the public, seemed to totally enjoy the night, the dark location and sound like they would like to attend more events like this. Hope to see everyone at the events

## Park Ridge Solar Viewing Apr 23

By Sam Insana

On Monday, April 23rd, Frank, Sam, and Mike did a PAS solar viewing party at Park Ridge elementary school on 99th Ave and Beardsley from 1:30 to 3:30 pm. There were about 140 7th graders and about half a dozen teachers. Frank showed solar flares with the PST and Sam showed sunspots with the 8 inch newtonian reflector. Mike did a powerpoint presentation on the sun inside the cafeteria. Mike was given a faulty laptop by the school so his pictures advanced very slowly. Mike, always ready for the unexpected, pulled out his meteorites and saved the day showing his vast collec-

tion to the students. Outside Frank and Sam had success with the first 75 students and faculty, but the second group had problems viewing because of the large cloud that enveloped the sun. After waiting in the over 100 degree weather for 30 minutes, the second group of students finally got to view some flares and sunspots when the clouds thinned out for about 10 minutes before thickening up again. Our teacher contact Alison, was very nice and grateful and provided iced water and gatorade.

Alison Thammavongsa writes: Aside from a slow laptop and a cloud cover, it was

great. Your guys did an excellent job.

Terri Finch writes: While at the May 2 early evening event at Park Ridge, Alison handed me a stack of letters written by the kids of this school, to PAS to the volunteers who did this solar event, thanking them for doing it. I will have these letters with me at the next several events at PVCC for everyone to read & enjoy. Come see what they wrote. Please do not take the letters, they will be stored in the historical records of PAS (which is kept at my place, currently).§

## Rancho Gabriela Apr 27

By Albert Tucker

The Rancho Gabriela School event was held on the basketball court behind the school. The light issue was no problem until the neighbor behind us turned on a spotlight, of course it was pointing at our scopes. There were several hundred in attendance and were kept in check by a barricade, when the barricade was dropped it looked like a stampede heading toward us.

The faculty was very experienced at turning the kids before they overran our scope position and formed them up into lines. We received a lot of good comments from the students and parents. Many of the

family's had purchased telescopes for home use and were fascinated by the views that were available. We were able to show Venus, Saturn and Mars well. Also many enjoyed seeing various clusters which was incredible with the lighting situation. The moon was probably the favorite view because the contrast showed details well.

The Principal of Rancho Gabriela was present during the entire event and many Teachers were available to help. It was quite humorous to hear the adults make up stories for their kids about what to look for when it was their turn. The evening went

very well and was appreciated by all that attended. I was surprised when our mailman brought his family and daughters over for a view. I have worked for a long time getting him interested in astronomy and it was good to see it paying off.

Terri writes: Attendance was Don Boyd, Albert Tucker, Marc Levison & Mike Marron. Thank you for taking care of this event!

Mike Marron writes: The kids had fun and learned about meteorites.§

## Rancho Gabriela Career Day May 1

By Terri, Event Coordinator

It was a hot day, but not as hot as last year. Attendance was Jerry Belcher with his PST, Don Boyd with a Mylar solar filter on a 6" scope, Terri Finch with a glass solar filter on an 8" scope. Also attending was Matt Kohl & William Finch. 2 other PAS members were due to help out but never showed up or canceled with me.

We set up about an hour prior to the start of the event (8am). We had to wait on the tables and chairs to arrive and then I put out the table cloths, handouts, and prizes I was planning to give away for Q & A. We were treated to breakfast which was very welcome.

The kids started showing up. There are 1250 kids at this school, and teachers. In this career day, we saw all of them. They came to us in grade groups. So, the first group came to our scopes. We repeated a

zillion times, do not touch the telescopes. We showed the sunspots and solar flares. We offered handouts that they could help themselves to, and I did Q & A with a few of them, giving away quite a few prizes throughout the day. It was great fun.

There was a breeze and the kiosk we were set up under, was a welcome relief from the sun. We all worked hard prior to lunch and then after lunch, it was K - 2nd grades, so Jerry put his scope away and relaxed, out of the sun. Don and I continued with our scopes. William was doing my scope while I helped Matt who was doing the stickers. The kids were to take their half page with the squares marking each Career day place they visited. So Matt took the stickers provided by the school and covered the square labeled Phoenix Astronomical Society. While he did that part and told

them to take handouts, I did Q & A. I asked questions about the planets, the Moon, the Sun, about all sorts of things and gave away a bunch of prizes.

Breakfast & lunch were great. Plenty to eat, cookies for dessert. I had set aside a couple cookies for the drive home and the kids kept wanting to take them from me. Many thanks to the team who helped at this event. Many thanks to Stephanie Wojtovich for inviting us. It was a very successful, fun, exhausting day! We hope to do it again next year, but this time, include the daytime Moon.

Stephanie writes: Thank you for coming to our star party and career fair this year! The kids, parents and community loved it!§

## Park Ridge Early Evening Event May 2

By Terri, Event Coordinator

It started out as a very nice day. Clouds were few but on the horizon. We started to drive to the location and the clouds took over. 1/3 of the sky to the West was covered. By the time we got there, about 1/2 of the sky was cloudy. We set up on the Moon and the Sun. Then we went to have our pizza. It was very appreciated. By the time we got back to our scopes, the clouds had taken away the Sun, and the Moon. Don Boyd, William & Terri Finch were first to arrive. Albert Tucker & Marc Levison arrived while the three of us were eating. Then Mike Marron showed up. We all set up, Marc and Albert didn't eat anything. Then 5:30 the people started showing up.

At first, we had nothing to show so Mike did his meteorites & I did Q & A with the kids. I passed out star charts for May. Then, as the clouds cleared, the Moon came out, and Mark & I rushed to grab the Moon. Don and Albert fussed with the Sun that

was still behind a cloud. A little later, the Moon went away and there was nothing again. So, I tried to get the Sun on the horizon. We could catch the edge of the Sun peaking out from behind the cloud. That was impressive by itself because the clouds on the horizon were orange like a sunset, and slowly moving over the surface of the Sun. And so it looked like a Sunset Sun with clouds in front of it, but no sunspots. It quickly vanished behind the building and then we were all on the Moon. I zoomed on on a cratered area of the Moon. Don took the whole moon. Being as it was still daylight (sunset just happened at 7pm and we were ending the event at 7pm, the Moon wasn't very spectacular until the clouds left about 7:15 and the sky cleared up tremendously around the Moon. Albert tried for Venus but could not get it due to clouds.

The pizza was great. The people are awesome at this school.. The event was

very good, even though it was a daytime event, it was a success. The temperature was pleasant, warm but ok. Not too hot for doing this event. There was a nice breeze which made it more pleasant, but annoying to my handout stack. I wish to thank the above mentioned Telescope Team for attending. We hope to do another event for this school.

### Albert writes:

This was one of the most challenging events that we have had. Luckily, Mike saved the day by showing off his rocks. The moon view was the most popular with expletives that were very positive. I recommend that we repeat this event in 2020.

Alison Thammavongsa, our contact at this school, writes: Thank you so much for coming out yesterday. Everyone loved it!!  
§

## Private Star Party for PVCC Faculty Apr 27

By Terri, Event Coordinator

Jenny asked Bruce Wurst and I to do a star party for the PVCC Faculty on Apr 27. So, we arrive at 4pm for a 5pm event. For this event, I purchased a Solar Filter for my scope. A little after 4pm, Jenny arrives, we pick the location at the home where the event was to happen and start setting up. The sun is hot and beating down on us. But we get all set up by 5pm, the start of the event. Attending, also is William Finch. I have my 8" scope with a solar filter on it. Bruce has grabbed and zoomed in on a crater on the Moon. We show these items to

all the guests arriving and going into the house for hors d'oeuvres. Inside is a beautiful Harp with a gentleman playing it. The event continues with food, talking, etc... and as the Sun dips behind Bruce's van, I need to move my scope to another location. So, after eating the most awesome hors d'oeuvres, I move my scope to catch the Sun, which soon disappears behind a Palm tree and sets. So, I take off my solar filter, and set up to view Venus. Bruce is still tracking the Moon, which was more impressive as the evening set in. About the

time we find Venus, the Sun has hit the horizon, & we announce that everyone should come out to see Venus. The party attendees trickle out, and from then to the time we cleaned up, Bruce showed Saturn & tried to grab the Orion Nebula, but a tree got in the way. He also showed Mars. I was able to get, besides Venus, the Moon with a red filter. It was a fun night. We are so thankful Jenny invited us. Thank you Jenny!

Jenny writes: Thanks for doing such a wonderful job! Everybody loved it.§

## Events at Mike's: July 21 & Aug 18

By Terri, Event Coordinator

Mike is hosting 2 events for Summer 2012 that include a Public Star Party, Potluck & Lecture. The lectures will happen rain or shine. RSVP is required for these events & please RSVP with Mike, please at 480-488-3031 or [PrimeFactory@q.com](mailto:PrimeFactory@q.com).

On **July 21**, we will be having the following schedule: Sunset is at 7:20pm. Visible this night will be the Moon, Mars & Saturn. It will get dark at 8:30. Jupiter rises at 2:30am. So, we will begin the potluck at 6pm. The star party starts at 8pm. The lecture will begin about 8pm, as well. This

evening we will enjoy a lecture from Mike about "Earth Shattering Evolution."

On **Aug 18**, we will be having the following schedule: Sunset is at 7pm, there is no Moon on this night. Saturn & Mars are visible. Dark is 8pm-ish. Jupiter rises at 12:30am & Venus rises at 2:30am. The potluck will begin at 5:30pm, the Star Party and Lecture will begin at 7:30pm. The name of this lecture will be "Tales of Plasma."

Everyone is welcome, but RSVP is required. For the potluck, please bring a main dish to share, enough to feed everyone

in your attending party, and a drink to share, such as a 6 pack of pop or a 2 liter bottle of pop, or case of water (suggestions). Liquor is ok, as long as everyone drinks responsibly. No driving home impaired, please. I suggest jackets, chairs, red filtered flashlights, it does get dark at Mike's & cooler as the night goes on. Bring enough food for dinner and snacks for later in the evening. You can stay the night if you bring your own sleeping stuff. Let Mike know you plan to spend the night, when you RSVP. We will see you there!§



# Thank Goodness for Magnetism

By Dr. Tony Phillips

Only 93 million miles from Earth, a certain G-type star is beginning to act up.

Every 11 years or so, the solar cycle brings a period of high solar activity. Giant islands of magnetism—"sunspots"—break through the stellar surface in increasing numbers. Sometimes they erupt like a billion atomic bombs going off at once, producing intense flares of X-rays and UV radiation, and hurling massive clouds of plasma toward Earth.

This is happening right now. Only a few years ago the Sun was in a state of deep quiet, but as 2012 unfolds, the pendulum is swinging. Strong flares are becoming commonplace as sunspots once again pepper the solar disk. Fortunately, Earth is defended from solar storms by a strong, global magnetic field.

In March 2012, those defenses were tested.

At the very beginning of the month, a remarkable sunspot appeared on the Sun's eastern limb. AR1429, as experts called it, was an angry-looking region almost as wide as the planet Jupiter. Almost as soon as it appeared, it began to erupt. During the period March 2nd to 15th, it rotated across the solar disk and fired off more than 50 flares.

Three of those eruptions were X-class flares, the most powerful kind.

As the eruptions continued almost non-stop, Earth's magnetic field was buffeted by coronal mass ejections or "CMEs." One of those clouds hit Earth's magnetosphere so hard, our planet's magnetic field was sharply compressed, leaving geosynchronous satellites on the outside looking in. For a while, the spacecraft were directly exposed to solar wind plasma.

Charged particles propelled by the blasts swirled around Earth, producing the strongest radiation storm in almost 10 years. When those particles rained down on the upper atmosphere, they dumped enough energy in three days alone (March 7-10) to power every residence in New York City for two years. Bright auroras circled both poles, and Northern Lights spilled across the Canadian border into the lower 48 states. Luminous sheets of red and green were sighted as far south as Nebraska.

When all was said and done, the defenses held—no harm done.

This wasn't the strongest solar storm in recorded history—not by a long shot. That distinction goes to the Carrington Event of September 1859 when geomagnetic activity

set telegraph offices on fire and sparked auroras over Mexico, Florida, and Tahiti. Even with that in mind, however, March 2012 was remarkable

It makes you wonder, what if? What if Earth didn't have a magnetic field to fend off CMEs and deflect the most energetic particles from the Sun.

The answer might lie on Mars. The red planet has no global magnetic field and as a result its atmosphere has been stripped away over time by CMEs and other gusts of solar wind. At least that's what many researchers believe. Today, Mars is a desiccated and apparently lifeless wasteland.

Only 93 million miles from Earth, a G-type star is acting up. Thank goodness for magnetism.

With your inner and outer children, read, watch, and listen in to "Super Star Meets the Plucky Planet," a rhyming and animated conversation between the Sun and Earth, at <http://spaceplace.nasa.gov/story-superstar>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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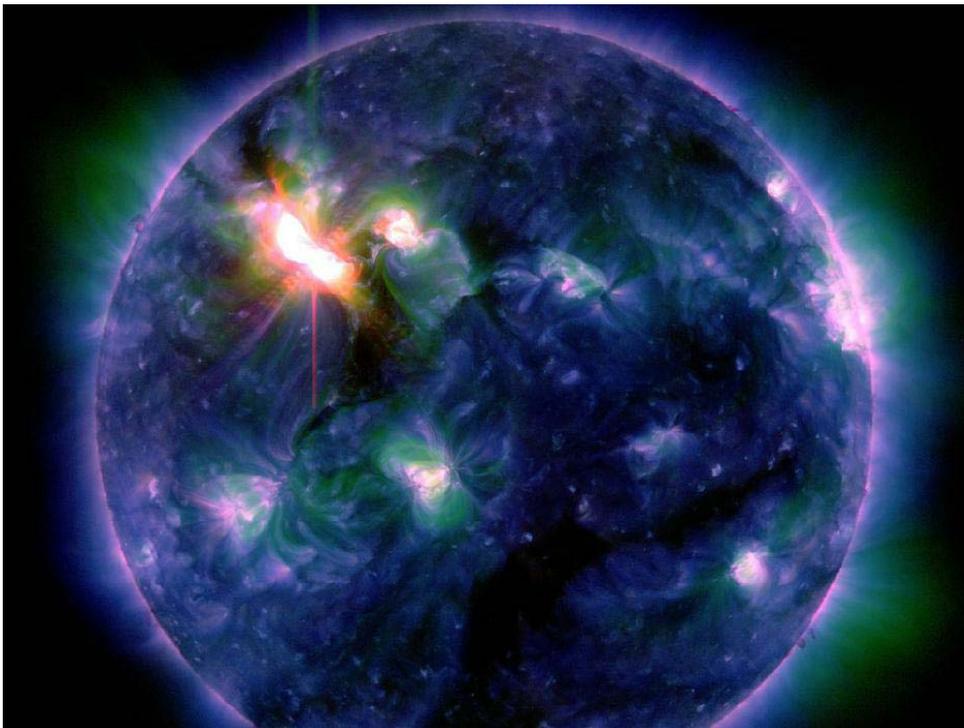
## Bob's Scope

*Continued From page 7*

we have scheduled for this summer at Mike's: July 21 & Aug 18. See you there!

### Bob Senzer writes:

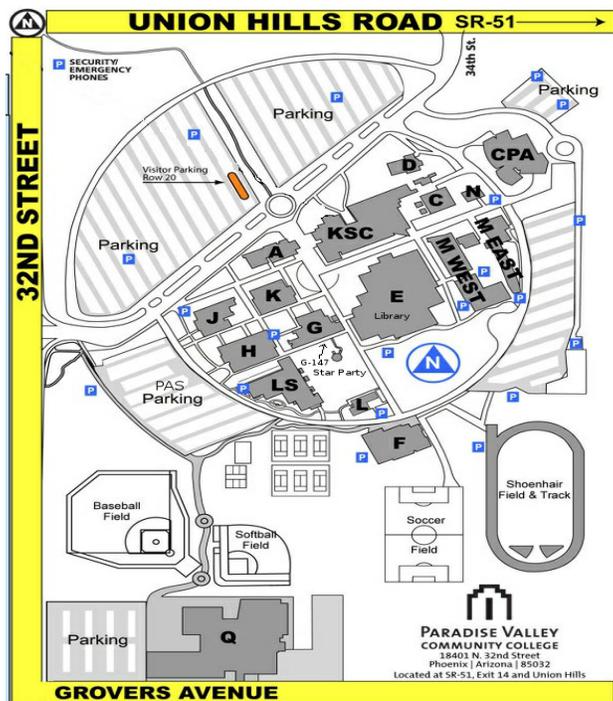
I had my first opportunity to use my telescope. I had a very good view of the moon, but I needed to align the finderscope to do more observation. Don and Sam were very helpful. With Don's help, I was able to align the equatorial mount appropriately. Sam filled me in on some of the details of eyepieces. Other items: Saw the ring nebula through Sam's scope. Watched part of the ultimate plotless science fiction movie. The title was something like "The Day that Time Stopped". Nonetheless the 70s / 80s era decor of the stage set for the house in the movie was a reasonable synthesis of the era when the movie was made. In any case, a good time was had by all. ... And thanks for finding my flashlight.§



*Multiple-wavelength view of X5.4 solar flare on March 6, captured by the Solar Dynamics Observatory (SDO) in multiple wavelengths (94, 193, 335 angstroms). Credit: NASA/SDO/AIA*

## Map of PVCC Main Location

18401 N. 32nd Street | Phoenix, AZ 85032



## Map of PVCC Black Mountain

34250 N. 60th Street | Scottsdale, AZ 85266



## Glendale Scouts May 26

By Terri, Event Coordinator

It was a lovely evening, after a day of feeling like we were going to get blown away. High winds had the whole day, and we were concerned the event would be canceled. Turns out, the evening was awesome, just the right temperature, not a cloud in the sky. It was great!

The event started by setting up at 6:30, then we waited for dinner to be BBQ'd. Once we were eating, we were totally enjoying the food. It was a potluck, so many different things were available, with BBQ'd meats. There was Hotdogs, Hamburgers with cheese, potato salad, cole slaw, shred-

ded pork which was heavenly, bottled water, and more. Don Boyd, William & Terri Finch were in attendance and we ate & enjoyed. Then, Shawn Grunewald was the Host, and he gathered all the scouts together, on chairs, on the lawn by where we had set up our scopes, in his driveway. This was an awesome idea. So, for about 10 minutes, I had their attention and did Q & A, plus talked about telescope etiquette, and answered questions. Don was on the Moon, so we started, after Q & A with the Moon. I had Saturn in my scope, so after they saw the Moon & Saturn, we started looking for other objects. Don was having scope prob-

lems, so I showed Mars, M13, & Ring Nebula. In the 2 hours we were there, there really wasn't time to show more than those objects. Shawn totally enjoyed it, and so did the scouts. The three of us totally enjoyed dinner & this wonderful group of scouts & their parents. Many thanks to Shawn for having us at his event. And many thanks to all who participated by bringing food & looking through our telescopes. Photos of this event can be found in the PAS Photo Gallery at this link:

[http://www.pasaz.org/forums/gallery.php?g2\\_itemId=11231](http://www.pasaz.org/forums/gallery.php?g2_itemId=11231) §

## Welcome New PAS Members

By Terri, Event Coordinator

In the past few months, PAS has taken in some new members. I'd like to welcome them to the club. Welcome to Rockie & Mandy Hervieux, Meg Gurley, Tim Cook, Robert Ewing, Mel Cantrell, Steve Machol, Kabrina Kershaw, & Megan Householder. We hope to see them at a lot of PAS events! §

## Bookmans Featured Piece

By Terri, Event Coordinator for PAS

Bookmans, as you know is one of the locations PAS utilizes for public events such as Telescope Workshops. Its a benefit to both Bookmans & PAS to be at Bookmans for these type of events. We usually

suggest books for people to purchase, & Bookmans usually has those books in stock.

The other day, my contact at Bookmans, Yvette, wrote this: "Since you've been with us at Bookmans for a while now, even through the re-model, I'd love for

bookmans.com to host a feature piece on Phoenix Astronomical Society," In the next month or so, I will be working with Yvette to produce a feature piece whereby PAS is featured, somehow, through Bookmans. Watch for an update to this! §

Don Boyd  
 PAsTimes Editor  
 701 W. Del Rio St.  
 Chandler AZ 85225

To:

## 2012 PAS GUEST SPEAKER LINE-UP

By Terri, Event Coordinator Events@pasaz.org

Do you have an idea for a Guest Speaker? Email Terri the details.

PAS Meetings are held in the Life Sciences Building at PVCC Main campus in room 205.

Sep 6: Members Night - Sign up with Terri to do a mini presentation.

Oct 4: Dan Heim "Atmospheric Optics"

Nov 1: David Williams "Asteroids, Ion Propulsion, & NASA's Dawn Mission to Vesta"

PAS is incorporated in the state of Arizona as a non-profit, scientific and educational 501(c)(3) organization. Our newsletter PAsTimes is published monthly from September to May and distributed by US PS and the Internet. All Issues are available for download on our website [www.pasaz.org](http://www.pasaz.org) Ads for astronomy equipment are provided as a courtesy to sellers and buyers, and do not constitute any endorsement by PAS. All Photos by Don Boyd unless otherwise credited. All articles and photos are copyright their authors or PAsTimes.

July 15 2012

**Sunrise: 05:29**

**Sunset: 19:38**



**Q1: June 27**



**Full: July 3**



**Q3: July 11**



**New: July 19**

## What's Up For July

By Rod Sutter, PAS Past President

Name	Date	Rise	Set
<b>Mercury</b>	<b>07-15-12</b>	<b>07:07</b>	<b>20:20</b>
Venus	07-15-12	02:50	16:24
<b>Mars</b>	<b>07-15-12</b>	<b>11:06</b>	<b>23:08</b>
Jupiter	07-15-12	02:14	16:07
<b>Saturn</b>	<b>07-15-12</b>	<b>12:32</b>	<b>00:02</b>
Uranus	07-15-12	23:12	11:30
Neptune	07-15-12	21:20	08:35
<b>Pluto</b>	<b>07-15-12</b>	<b>05:29</b>	<b>19:31</b>

All Times Arizona Time