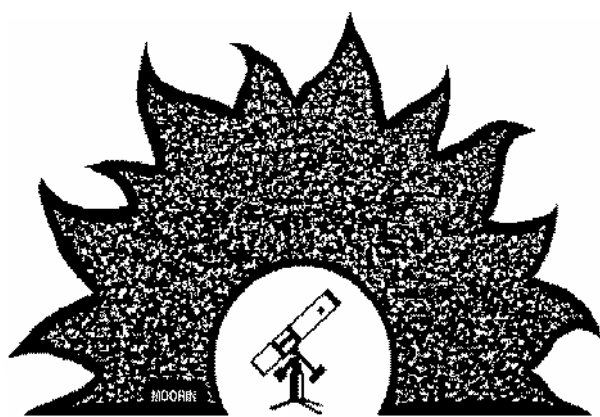




PAStimes

Phoenix Astronomical Society

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PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

Dr. David A. Williams To Speak at September 4 Meeting

Dr. Williams topic will be "Latest Insights into the Geology of Mars from Recent Planetary Missions".

Dr. David A. Williams is currently serving as a Faculty Research Associate in the School of Earth and Space Exploration at Arizona State University. He served as a Visiting Assistant Professor at ASU in 2001-2002, in which he co taught Physical Geology and a graduate seminar in Planetary Volcanology. David is currently performing research in volcanology and planetary geology, with a focus on planetary mapping, geochemical, and remote sensing studies. His research has included computer modeling of seismic wave propagation through planetary interiors, visible and near-infrared spectroscopy of the lunar

surface, planetary geologic mapping of the satellites of Jupiter, computer modeling of the physical and geochemical evolution of lava flows in a variety of planetary environments, and petrologic study of lava samples from Mount St Helens. He was involved with NASA's *Magellan* Mission to Venus and *Galileo* Mission to Jupiter, and he is currently serving as an Associate US Investigator on the European Space Agency's *Mars Express* mission. David is currently the Secretary-Treasurer of the Planetary Geology Division of the Geological Society of America, has served on several NASA committees including the 2007 *Jovian System Observer* Science Definition Team, and is currently a steering committee member of the NASA Outer Planets Advisory Group.



Meeting of the Minds Review 6/26

By Terri, Events Coordinator

This was a special VOTING meeting called to make changes in the PAS Constitution. We had a good turnout. Thanks to everyone who attended and gave their input.

We started the meeting with Chris's mini training session on the new PAS Website. The idea between the training session isn't HOW TO USE THE SITE, but more WHAT THE SITE HAS TO OFFER YOU. Yes, you can poke around on the site and find the features yourself, but to really know what is available and how PAS can utilize it's functions, the training session has come in very handy.

Then we brought up the topics for review and voting. From another source, we wanted to create a position within PAS that is called PAST PRESIDENT. The group questioned this position. We discussed it at length. The purpose of this position is to be

an advisor to the new President. So, let's say Rod leaves office as President next year. He would then be the Presidential Advisor/Past President to assist the current president in their duties for one year. The new President may go on in office for as many years as they would like, but for the first year in office, the Past President assists and advises. The Past President does not take over for the President in case of absence or other happenings such that the Vice President would do. The Vice has that job. This was voted in as a new position within the constitution.

The next item we discussed was the way in which PAS contacts members about special meetings. In the constitution it was written that all important contacting should be done by phone. These days there are other options such as email, texting on cell

phones, etc. So we are changing the constitution to include all forms of contact as a way to let the members know about special meetings and other important events. That was vote in, as well.

Honorary PAS Membership. The constitution says that it is for the life of the member who is being honored. We voted to change it to be an Honorary Membership that can be adjusted as needed. The Honorary Member in this case is Dave Hellman. He is the PAS / PVCC Liaison. We are granting him Honorary PAS Membership for the time in which he serves as the Liaison between PAS and PVCC. The membership we speak of will give him Members access to the website so that he can post when he wants to cancel a PVCC star party, or he can check to see if we are having an event without having to feel pressured to

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Meeting of the Minds Review 6/26

drop me an email to verify we are doing the event or not. He will maintain his membership until he is no longer the Liaison for us, or we no longer work with PVCC. If he leaves us and another Liaison replaces him, then the PAS Honorary Membership then moves to the new Liaison. This was voted in as a good idea to change in the Constitution.

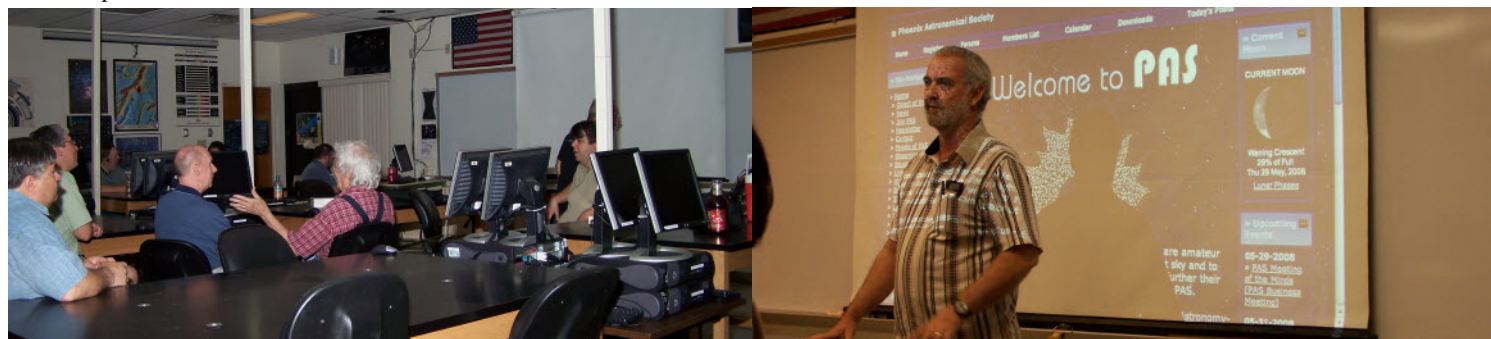
A topic we discussed that didn't have to

do with the PAS Constitution was the offer from one of the vending companies we work with (we = the Finches vending business) in which they are offering to make PAS free stickers. We had a brief discussion on this topic and will resume it through the website where I hope to get some ideas of what we should put on these free stickers, for giving out to the public to advertise PAS. See the Forum discussion on this topic

in the Members Forums.

Dave informed us that they are starting to build an observatory at PVCC. Volunteers to work the observatory will be welcome. More details will come on this in future articles.

It was a very good, very productive meeting. Thanks to everyone who attended. We hope to see you at the next MOM's! ***



Upcoming September PAS Events

September starts the PAS SEASON. PAS has the General Meeting with Guest Speaker from September to May on the first Thursday of each of those months, exceptions happen such as January of this season. For the Speaker Line-Up, please see the online downloadable flyer, or pick one up at the next PAS event. PAS meetings open at 7pm, with 1/2 hour for Speaker set up and socializing, then we begin at 7:30pm and go to 9:15pm. We must vacate the Library at 9:30pm. Everyone is welcome to join us. Bring a friend!

Here is the schedule of upcoming PAS events, public and private, for September. Please note, if you are not a PAS member, you will not be attending the PAS MEMBERS ONLY events, however, for all other events listed, feel free to attend and bring your whole family! RSVP where requested.

Since it is so close to the beginning of September, I shall include one event from August.

8/30 PAS MEMBERS ONLY or by Invite from Mike. Mike's Star Party & Lecture Series part 3 of 4. Topic: Galaxies. Location: Mike's home in Carefree. 4pm to Whenever. Bring cash to split a pizza at 5pm. Lecture runs from 6pm to 8pm. Lecture happens rain or shine. Star Party is Weather Permitting. RSVP is required with Mike.

9/4 7pm - 9:30pm in PVCC Library. The PAS Meeting to start the PAS Season.

Speaker: David Williams. Topic: Latest Insights into the Geology of Mars from Recent Planetary Missions. Bring the whole family!

9/6 5pm to 9:30pm North Mountain Park Visitor Center Star Party. Volunteers needed. Bring your telescope, bring a friend, bring the whole family, and join us in front of the Visitor Center in the parking lot for a star party. Weather Permitting (monsoons are still abundant). RSVP required with Terri. The next North Mountain Park Star Party will be on 10/4. Plan to attend!

9/11 6pm to 10pm PAS/PVCC Star Party, RSVP with Terri. On the PVCC Campus, meet by the Telescope Dome by G-147. RSVP with Rod. Weather Permitting (monsoons are still abundant to 9/30).

9/21 4:30pm to 6:30pm PAS/BOOKMAN'S FREE TELESCOPE WORKSHOP. Happens Rain or Shine because it is indoors. RSVP is required with Terri. Bring your telescope and learn from those with experience how to make your telescope give you the best possible view. Bring questions and friends. Seating is limited. The next (and possibly last at this location) PAS/Bookman's Telescope Workshop will be on 11/16 with a Guest Speaker: Mike, and a topic of "Can we live on the Moon or Mars?"

9/25 7pm to 10pm PAS Meeting of the

Minds. This is the business portion of PAS. We ask that NO CHILDREN attend. Everyone is welcome with an interest in how PAS works. Come with ideas to share. If there aren't enough topics to hold the meeting, a few days prior to the meeting, the meeting is canceled. Confirm meeting is happening via Terri, or the PAS Calendar on the website.

9/27 Noon - ? Deep Sky Star Party - Cuttin' Edge Observatory in Mayer AZ. RSVP required with Chris, Webmaster, and this star party is open to PAS MEMBERS ONLY. Weather Permitting (monsoons are still abundant).

9/27 4pm to ? Mike's Star Party & Lecture Series part 4 of 4. This is the last one!!! Come to Mike's home in Carefree. Mike will be expecting RSVP's PAS Members around 4pm to share in the cost of ordering pizza for dinner around 5pm, lecture starts at 6pm to 8pm, then Weather Permitting (monsoons are still abundant) a star party. RSVP is required with Mike. Non PAS Members can request attendance through Mike. Topic: Galactic Evolution.

And one event in October:

10/2 7pm to 9:30pm PAS MEETING. Speaker Jeff Hopkins. Topic: Stellar Spectroscopy. See you there!

For a complete list of upcoming events to Dec 2009 in list format, Download: <http://pasaz.org/forums/downloads.php?do=file&id=49> ***

WHAT CAN YOU SEE IN A TELESCOPE?

A presentation By Leah Sapir

Review written by Terri, Events Coordinator

Bookman's Telescope Workshop 7/20 2:30pm to 6:30pm is the event you missed & so here is a review of how the event took shape. We had 2 RSVP's, but only one showed up. Mike, the RSVP, brought his 10" week old telescope to be cullminated. Rod, Sue, Don, John P., Terri, William, Mike M. & Leah were in attendance from PAS. While Leah set up for her presentation, Rod assisted Mike with his new scope. They worked on the collumiation and then we had an awesome presentation from Leah.

What can you see in a telescope? Leah touched on various objects in the night sky. She talked about the Moon, Planets Asteroids and Comets (within the Solar System). Then she moved to within the Galaxy and covered Stars, Star Clusters and Nebulae. And finally she covered outside the Galaxy objects such as other Galaxies and Galaxy Clusters.

A few things that caught my attention that I really liked about this presentation were:

- * A very good talk about Mars, its position in the Solar System and why we can't see it in the telescope really good, all the time. Leah covered this at great length and I thought she did a marvelous job at it.

- * Another topic she covered very well

was the Double Stars and Variable Stars. I really enjoyed the Variable Star example she showed. It was most impressive and a great example for those who might not realize the brightness difference stars can have.

- * One more topic that was impressive to me was the section she did on Nebulae.

Her images & examples came from slooh.com. She was telling us that if you go to MySlooh.com you can see all sorts of user generated animations and other fun stuff there as examples of what you can do as a member of the Slooh site. Slooh is a subscription site. You sign up a year at a time. You can chat in the forums and use the telescope that is computer operated to take photos of the night sky. The majority of the presentation was done with photos, drawings and other such items from Slooh. You should check out Slooh next time you get the chance. It is really an awesome Astronomical Tool.

Thanks goes to Mike, the RSVP, for attending. After the presentation Rod helped Mike mount his Telrad, and finished collimating the telescope. Don & John assisted. John told Mike all sorts of cool stuff about the club and flying airplanes. Then Mike M. took over and showed Mike his meteorites. When Mike M. finished with

the meteorites, we called it a night and left around 5:30pm to go to dinner at Carlos O'Brien's.

It was a very successful, informative meeting and if you missed Leah's presentation and would like to get a chance to see it... please let me know and I will schedule a showing of it sometime in the near future. I believe all "new to astronomy" folk, with or without a telescope, should see this presentation. It really opens your eyes to what you WILL be able to see in the telescope and why the False Color Images that NASA prints, although pretty, aren't realistic to what you will see. Even the color photos on the outside of your telescope box will not be what you actually see in that telescope. And Leah can explain why and what you will see.

Many thanks goes to all the PAS Members who attended. Mike M., thanks for the use of your projector. Leah, thank you for the presentation. Rod, thank you for your assistance with Mike's new scope and for the use of your laptop after the presentation. John, thank you for being helpful at the meeting.

We hope to see more PAS members at the last 2 Bookman's classes for 2008: Sept 21 4:30pm to 6:30pm & Nov 16 3pm to 6:30pm with Guest Speaker: Mike Marron.

PAStimes Star Tours Group Members

By Terri, Events@pasaz.org or 602-561-5398

I am updating, for the purpose of providing a list to the members of my Star Tours TEAM, an updated list of who is, and is not part of the Star Tours TEAM of 2008.

If you are new to PAS, and you have a telescope or can offer something astronomy related at every star party (such as Mike with his meteorites), you can be part of our PAID Star Tours group. We go out to company parties and show the attendees of the party the night sky, and get paid for it.

If you wish to be part of the TEAM, I wish to redo the list of who is and is not on that TEAM. Please get in touch with me with the following information.

Your name, phone, email, and info about one or more scopes you have available for PAID star party use (by you). Current PAS Members are welcome to join this TEAM.

Now, by signing up for this Group, does not mean you are tied into attending EVERY star party that comes along. Here's

how we do this....A company, willing to pay us for our time, contact me (I hope) and hires a certain number of telescopes, per the Telescope Fee Chart found on line. PAS Charges \$115/scope with a 2 scope minimum. However, that doesn't mean we don't provide more scopes if we feel we will need more in attendance, for no extra charge to the company.

So, you RSVP for the event, on line or by phone, in the Private Calendar section (Only PAS members can get into that area), before another member does, and you get the job. Notices about these events will go out in the Forums the moment I have the details or the Newsletter if we don't have enough volunteers for a job.

Some jobs ask that only 2 scopes attend. There might not be enough room for more to attend, even for free. Others don't want to pay for the extra scopes, so we might only collect the \$230 minimum amount. Then we divide it among the TEAM members equally, per scope in at-

tendance. So, if you bring your Wife and she doesn't bring a scope, only you, with your scope, gets paid. Also, some jobs we've been doing for a long time and we continue it at their previously done rate to keep the job. The amount we will be making total, to be divided, will be posted in the Calendar on line on that event.

How do you get paid from PAS? When we receive the check (can be up to 2 months later) from the company who is going to pay us, we then write the checks to you from PAS for your help at that star party.

Does this sound like fun? Then, sign up today to be part of the TEAM and include the above requested info. Some PAS members do not have Internet access, so this is my way of asking them to update their info with me, ASAP. Drop me an email or phone call at the above contact info, and get signed up today. As of today, everyone is off the list and must renew their "membership" in the PAStimes Star Tours TEAM. ***



Arizona Sky

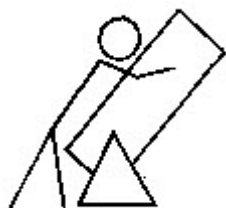
By Leah Sapir

This month the summer triangle (Lyra-Cygnus-Aquila) will be overhead, and the fall constellations of Pegasus, Andromeda, and Cassiopeia will be high in the east. Hercules, Ophiuchus, and Sagittarius will be moving towards the west, so let's explore them before they fade into the sunset.

The constellation Sagittarius, "the archer", is supposed to be a centaur aiming a bow and arrow; but the lower parts of this picture are close to the horizon and somewhat faint. The brightest stars of Sagittarius form a much more recognizable shape: a teapot! Five bright stars arranged in a pentagon, almost equilateral except for the bottom which is somewhat wider, form the teapot and its cover. Two additional stars at the left make a handle, and one additional star at the right is the point of a triangular spout.

Whimsically completing the picture, a slightly-curved horizontal row of stars above/left of the handle resembles a teaspoon, and the small arc-like constellation Corona australis just below the teapot makes a handy lemon wedge. And, if your skies are dark enough, you can see streaks of the Milky Way rising like steam from the teapot's spout.

When we look towards Sagittarius, we are looking towards the center of our galaxy, so it is full of beautiful star clusters and nebulae to explore. One of the brightest is M8, the Lagoon Nebula, visible in binoculars or a small telescope, just above the teapot's spout. This little puff of brightness is a stellar nursery where young stars are forming at this moment from a huge cloud of dust and gas, 5000 light years away. The part that we see is about 140 light years across, and is visible only because it is lit up by bright young stars; actually it is only a small bubble on top of a much larger dark cloud of molecular hydrogen. Some of these young stars form a small star cluster, NGC 6530, in the left half of the nebula, while the brightest area in the right half, aka "the hourglass", is even younger.



A little farther up from the Lagoon Nebula (about 1.5 degrees north) is the Trifid Nebula, but this is a little fainter and might require a telescope and

darker skies. The small cluster of young stars illuminating this cluster is found at its center. And a little further above/left of the Trifid Nebula is open cluster M21.

Continuing about 8 degrees further up, more above the teapot's cover than its spout, are open cluster M18 and the Swan Nebula M17. This nebula has several names, including the "Horseshoe" or "Omega" nebula, and I've even heard it compared to an upside-down duck! Another two degrees farther up from the Swan Nebula is M16, the Eagle Nebula, in the constellation Serpens. This faint nebula was made famous in the Hubble photograph called "Pillars of Creation", which zoomed in on some column-shaped clouds of gas and dust where stars are forming at the heart of the nebula. This nebula is sometimes called the "Star Queen" nebula.

And from the very young to the very old... all of these nebulae are lit up by young open clusters of stars that formed inside the nebulae; but near the top and bottom of the "teapot" we can see several globular clusters, the oldest kind of star cluster. Globular clusters are dense collections of stars, located mostly in a halo around the center of our galaxy, and estimated to be 12-14 billion years old – about the same age as the Milky Way. They are theorized to be bits and pieces left over from the galaxy's formation.

A little to the left of Lambda Sagittarii (aka Kaus Borealis), the star that marks the top of the "teapot", is M22, a bright globular cluster about 10,000 light years away. To the right of Lambda is M28, somewhat fainter because of its greater distance: 30,000 light years. And along the bottom of the "teapot", between Zeta Sagittarii (aka Ascella) at the bottom left and Epsilon Sagittarii (aka Kaus Australis) at the bottom right, are three small globulars: from left to right they are M54, M69, and M70. M69 and M70 are about 30,000 light years away; but M54 is at an amazing distance of 90,000 light years, and it might in fact belong not to our galaxy but to the Sagittarius Dwarf Elliptical Galaxy. This is a satellite galaxy discovered in 1994, which is interacting with our galaxy and will eventually be absorbed into the Milky Way. M54 is either a globular cluster located very close to the nucleus of the dwarf galaxy, or maybe it is the nucleus itself – it is very large and massive compared to most globular clusters.

A little above/right of Sagittarius, and above Scorpius, is the constellation Ophiuchus, which along with its accompanying constellations Serpens Caput and Serpens Cauda are the home of many more globular clusters. The brightest of these are M10 and M12 across the middle of Ophiuchus, and M5 in Serpens Caput. And continuing farther up is the constellation Hercules with the bright globular cluster M13, and its "little brother" M92, the often-overlooked "other cluster" in Hercules. M10 and M12 are about 15,000 light years away, while the other globulars are at a distance of 25-30,000 light years.

Ophiuchus also has some interesting open clusters, including IC 4665 a little to the left of Beta Ophiuchi (aka Cebelrai). With a little imagination, this cluster spells out the word "Hi!" (a message from E.T., perhaps?)

A little further to the left is another interesting cluster (or perhaps asterism) – a V-shaped group of stars resembling the head of Taurus. This was discovered in 1777 by Martin Pocobut of the Royal Observatory of Vilna, who promptly named it "Taurus Poniatovii" after the Polish king Stanislaw Poniatowski.

And near Taurus Poniatovii (but not really visible without a very large telescope) is Barnard's star, a red dwarf which at a distance of 6 light years is the second-closest star to the sun (after the Alpha Centauri system). Photographs show that it is moving across the sky at a rate of 10 arc seconds per year, and approaching us at a rate of almost 100 miles per second. In just 10,000 years it will be closer than Alpha Centauri!

This month will begin with an extraordinary conjunction of three planets: on September 1, Mars, Mercury, Venus and the crescent moon will make a nice grouping together soon after sunset (but setting during twilight). On the following nights, the three planets will set a little earlier each night, but since the autumn sun also sets a bit earlier each night, the three planets will continue to be evening stars (but close to the horizon) till around the middle of September. After that, Mercury and Mars will fade into the sunset, but Venus will remain as a nice evening star through the end of September, and for several months to come.

Jupiter will be high in the southwest at sunset throughout September, setting

Arizona Sky

around 1:30 am at the beginning of the month and around 11:30 pm towards the end of the month.

Saturn will be too close to the sun to be visible at the beginning of the month, but

will reappear as a morning star towards the end of the month – rising in twilight around 5:30 am at mid month (40 min before sunrise) and at 4:30 am by the end of the month (almost two hours before sunrise).

Join us next month when we will continue to explore the summer constellations before they disappear. And till then – wishing you clear skies, and happy observing!

Dues Are Due

By Terri, Events Coordinator

It is that time of year again when PAS dues are coming due. PAS likes to collect & organize the membership dues by the end of October. Yes, I tend to remind everyone a bit early, however, you'd be amazed how many still forget it is due.

With the new additions of the updated PAS Website, we now control your membership with PAS. If your dues are not received by Dec 31, 2008 this year, you will be reduced on the PAS Website to Visitor & not have the access you had as a PAS member. So, consider getting those dues in right away.

The easiest way to do that is go to the downloads section at this link <http://pasaz.org/forums/downloads.php?do=cat&id=2> and get a copy of the Dues sheet. Fill it out and bring it with you to the next meeting. No sense using postage to get it to PAS... & then hand it to Mike, our Treasurer. If you forget to bring the form with you, Mike & Terri will try to have a few on hand

at the next several meetings, for those wishing to get their membership updated sooner than later.

The PAS Membership is valid for one year from Jan 1, 2009 (in this case) to Dec 31, 2009. We collect the dues early so that the Roster can be updated & so that our membership with several Astronomical Society places is also updated well before they need the information to be sent to them. All PAS members receive the REFLECTOR which is the Newsletter from the Astronomical League. It comes out quarterly, I believe. And for that, Mike must send the current membership roster to them, each quarter to keep our membership list updated. PAS pays for that membership with the dues we collect from you. We also have the access to the NEW PAS Website, for which Chris keeps the membership roster on hand so that when a new PAS member joins the site, he/she can then be updated to PAS Member quickly, or by request if Chris or Terri do not notice the new member have

joined the site. There are many benefits to being a PAS member. These were just a few that were on the top of my head at this moment.

So, get those dues in to Mike by Oct 31st. It is very appreciated by all the PAS Officers.

Remember, along with the Dues sheet is the Membership Drive form. If you have a brand new-to-PAS prospect, have them use that form to get \$5 off their membership. Also, on the bottom of their membership form, be sure to put your name as the referral. We continue to offer a Free PAS Membership to those who can draw in 5 new PAS members within the PAS year (Jan to Dec). This was Harold Moorin's idea & I think it is worth offering to our members. Keep a list of who you signed up in the year, & let Mike know, when your dues are next due (in October) that you have a Free membership coming to you. We will gladly award it for your efforts! Thank you for getting your dues to Mike, soon. ***

Photo Shoot Dates Changed

Due to a lack of the photographer (he had other things to do that day), we canceled the July 19th and July 26th photo shoot dates. I have rescheduled & I need your RSVP for attendance.

Who is attending? Current PAS members who wish to be part of the PAS PASTimes Star Tours group (PAS Members PAID to do star parties for companies as a group). If you are in this category and wish to be part of the photo (not a requirement to be in the TEAM), then RSVP all the dates below that you can attend.

Where are we meeting? We will be meeting in the circular walkway in front of the Visitor Center at N. Mountain Park Visitor Center. Meet and then discuss where to set up. Try to be there within 15 minutes of the scheduled start time so we are not waiting on everyone to show up to pick where the photo will happen.

From the RSVP's we will choose 2 dates that have the most RSVP's. The first date will be set. If it fails due to weather, the second date will happen. If the first date happens, the second date is canceled. Your RSVP is required for attendance & your RSVP is the list of dates you can attend. Get that to me by Sept 10th. Why Sept 10th? Because Don needs time to get the dates announced in the October Newsletter, thus, I need time to figure out who RSVP'd for these dates & then choose the 2 dates from the 8 listed below to have the photo shoot.

The dates I picked are Saturdays and Sundays that have no other, at this time, PAS events on them.

The date I suggest we all shoot for is Oct 4th as we will already be doing a star party at the photo shoot location on that date,

making it a photo shoot and then a star party date!

Here are the dates to RSVP for. Send me ALL the dates you can attend. Watch the start times and plan to be there until 6pm just in case we need the extra time.

Sat Sept 20 3pm to 6pm

Sun Sept 28 3pm to 6pm

Sat Oct 4 2pm to star party

Sun Oct 5 3pm to 6pm

Sat Oct 11 3pm to 6pm

Sun Oct 12 3pm to 6pm

Sat Oct 18 3pm to 6pm

Sun Oct 19 3pm to 6pm

So, RSVP for every date above you can attend. Thank you for your patience. We'd like to complete this project and start mailing out the Post Cards with that photo by end of October. See you at the photo shoot!!! ***

July 4th at Mike's in Carefree Review

By Terri, Events Coordinator

We had an awesome time at Mike's for July 4th. The turnout wasn't as large as Mike expected and we believe the storm chased away some of the folks who were going to attend. Attendance was Mike, William, Don and me. But we had a great time for which YOU missed out! Plan to attend next year!

Visit the photos at this site: <http://tinyurl.com/6lchrv> and enjoy what we enjoyed. I took 115 photos and these were the best ones that told the story.

We drove up to Carefree to Bad Donkey, William, Don and myself. We arrived to find that Bad Donkey is closed July 4th. We called Mike, who was just headed out the door to meet us there. He said, meet at the house and we will decide where to go to dinner from there. So, we drove up to Mike's.

We fussed about what to have, and where, and then decided on Barro Pizza. We were going to have Pizza anyway at Bad Donkey. So, we drove to Barrow Pizza. It was good, yummy. See the photos

about it.

Then we left there thinking people might be gathering at Mike's house waiting for us to return to get inside, so we drove back to Mike's. No one was there. But there was a storm setting in. But, as we arrived, a family of Quail were making their way across the land in front of us so we took out our cameras and tried to catch photos of them.

The sky got darker and the storm crept in on us and eventually we felt rain drops. We went inside for a while, watching a TV game show in silent, guessing the answers before the people on TV did. That was kinda fun. While we played our little TV game, the rain drops coming down must have been at least the size of quarters. We went outside to check it out once and the rain drops stung! Ouch! We went back inside to wait it out. The rain hit really hard on the windows for a long time. Then it got quiet outside. We stepped outside, and only a light rain was falling at that time, and it was dark.

Then we heard the start of fireworks

around 9pm. We walked out of the house and down the driveway to the end, where we saw them setting off the fireworks. It was still lightly misting, but nothing hard or really wet. Don and I went back for our cameras and came back and shot a bunch of photos. We tried to catch the lightning in the background of the fireworks. I got them in separate shots, as seen in the photo collection from this event. That's my first ever lightning photo!

We had a good time. When the fireworks ended we went inside and chatted for a while. Then it was about 11pm and Don & William were thinking of departing. So, we headed out, leaving Mike to spend the evening without anyone sleeping over, this time.

We had a good time and we thank Mike for hosting this party. Would have loved to have more people involved but the ones who did come, were great to be with. Watch for the announcement of next year's event. Mike will just have to host another party for July 4th in 2009.

See you there! ***

May 9th Cub Scout star Party Review

Rod Sutter

After arriving at the Star Party site, I was escorted to the backyard when most of the scout troop was having a good time on the trampoline. Some of the scouts started asking me some astronomy related questions right away, while some of the scouts were having a good time riding the electric scooters around the track in the yard. After the sun went down and it started to become a little dark, we were able to view The

Moon, Mars, and Saturn in that order. The adults got more excited over the viewing than did most of the scouts. I used a 10x eyepiece and showed some great shots of Tyco, and other Moon craters. The adults could not believe the view. Then when I put it on Saturn everyone, like usual got excited, they could not believe the view of the Rings of Saturn. After only about an hour of viewing, being in the city with only an 8"

scope, there was not much left to view. Then we closed up shop, got lots of thanks for coming to their event. I told them it was not a problem, we love to get out and do as many events as possible. Especially when it comes to showing the night sky to the public.

Our boys had a great time at the star party! Thanks again for all of your help with the organization of the event. Kari B. Zangerle

Year in Space Calendar

Have you put in your order with the group to get your Year in Space Calendar this year? I will be accepting orders for the calendar starting at the September PAS meeting. Go to the Year In Space website and see the new calendar. It appears to be available, see the 2008 calendar at yearinspace.com.

Here is how the orders work. Get on the list. We want to get 10 calendars ordered as a minimum. I have 2 RSVP's so far (including myself). We get a club discount. There is no shipping involved, just a flat rate, if all calendars come to the same ad-

dress. Just before I put the order in, sometime at the end of October, I will be collecting the money for the orders. I place the order, receive it, and then at the November PAS meeting, I get them delivered to you. Order yours today, as a group and save. The previous cost was about \$10 each. Currently 1 calendar goes for 11.95, but if we get 10+ we get them for 9.95 each. Let me know you want one, today. Thanks for your order. These make awesome Christmas presents. I will be ordering myself one even without the 10 total needed for the discount but it sure is nice to only pay \$10 for it. Help us get the discount. ***

BRING A FRIEND TO ALL PAS EVENTS!

9//4/08 David Williams - Latest Insights into the Geology of Mars from Recent Planetary Missions

10/2/08 Jeff Hopkins - Stellar Spectroscopy

12/4/08 Mike George - Black Holes

1/8/09 Frank Timmes - Super Nova

2/5/09 Mike Marron - Galaxies & History of Universe, Part 1

Do you have a suggestion for a speaker you'd like to hear at the PAS meetings? Contact Terri, Events Coordinator, to make it happen! ***



A Google for Satellites: Sensor Web 2.0

If you could see every satellite passing overhead each day, it would look like a chaotic meteor shower in slow motion.

Hundreds of satellites now swarm over the Earth in a spherical shell of high technology. Many of these satellites gaze at the planet's surface, gathering torrents of scientific data using a dizzying array of advanced sensors — an extraordinary record of our dynamic planet.

To help people tap into this resource, NASA researchers such as Daniel Mandl are developing a “Google for satellites,” a web portal that would make requesting data from Earth-observing satellites almost as easy as typing a search into Google.

“You just click on it and it takes care of all the details for you across many sensors,” Mandl explains.

Currently, most satellites are each controlled separately from the others, each one dauntingly complex to use. But starting with NASA's Earth Observing-1 (EO-1) satellite, part of the agency's New Millennium Program, Mandl and his team are building a prototype that stitches these satellites together into a seamless, easy-to-use network called “Sensor Web 2.0.”

The vision is to simply enter a location anywhere on Earth into the website's search field along with the desired information types — wildfire maps, vegetation types, floodwater salinity, oil spill extent — and software written by the team goes to work.

“Not only will it find the best sensor, but with proper access rights, you could actually trigger a satellite to take an image in the area of interest,” Mandl says. Within hours, the software will send messages to satellites instructing them to gather the needed data, and then download and crunch that raw data to produce easy-to-read maps.

For example, during the recent crisis in Myanmar (Burma) caused by Cyclone Nargis, an experimental gathering of data was triggered through Sensor Web 2.0 using a variety of NASA satellites including EO-1. “One thing we might wish to map is the salinity of flood waters in order to help rescue workers plan their relief efforts,” Mandl says. If the floodwater in an area was salty, aid workers would need to bring in bottled water, but if flood water was fresh, water purifiers would suffice. An early and correct decision could save lives.

Thus far, Mandl and his team have expanded Sensor Web 2.0 beyond EO-1 to

include three other satellites and an unmanned aircraft. He hopes to double the number of satellites in the network every 18 months, eventually weaving the jumble of satellites circling overhead into a web of sensors with unprecedented power to observe and understand our ever-changing planet.

To learn more about the EO-1 sensor web initiatives, go to <http://eo1.gsfc.nasa.gov/new/extended/sensorWeb/sensorWeb.html>. Kids (and grown-ups) can get an idea of the resolution of EO-1's Hyperion Imager and how it can

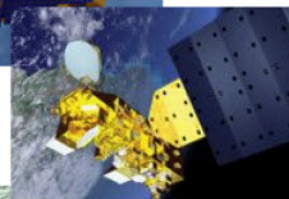
distinguish among species of trees—from space at http://spaceplace.nasa.gov/en/kids/eo1_1.shtml.

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

Map shows locations of wild fires



Terra
(MODIS, Moderate Resolution Imaging Spectroradiometer)



Aqua
(MODIS)

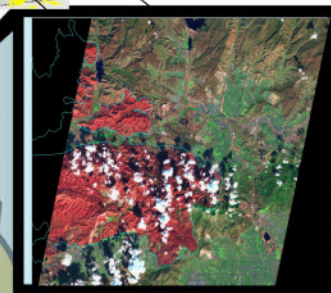
MODIS Active Fire Map



Fire precisely located using MODIS data



Earth Observing 1
(Advanced Land Imager and Hyperion instruments)
tasked to acquire image data



Data downlinked and processed to enhance vegetation and exactly define burn area. Resources deployed to highest risk areas.



A “Google for satellites” type of web portal will allow users to request real-time data from Earth observing satellites

Bookman's Free Telescope Workshop

RSVP is required as seating is limited

We have 2 more Bookman's events this year. Volunteers are needed. We will be meeting at Bookman's in their back room on 9/21 4:30pm to 6:30pm and 11/16 3pm - 6:30pm. As a reminder, Bookman's will be renovating their store at year's end, thus we

may not be able to use this location for our Telescope Training Workshops after the first of the year. So, please attend these events now and get to know your telescope, or be there to help out.

At the Nov. event we have Mike Maron doing an awesome presentation. You won't want to miss it. RSVP and bring everyone you know! We will see you at both events! ***

North Mountain Park Visitor Center Star Parties

Volunteers will be needed. We have 2 exciting star parties lined up for our awesome location at North Mountain Park Visitor Center. Weather permitting we will have them on Sept 6 from 5pm to 9:30pm with Venus, Moon, Mars, Mercury, Jupiter as the highlights, and on Oct 4 from 5pm to 9:30pm with Moon Venus, Mars & Jupiter as highlights. If you wish to volunteer,

RSVP on line in the calendar or with Terri at Events@pasaz.org or 602-561-5398 2 days prior to event. If you wish to attend and have fun, the RSVP is the same for you. We would like an RSVP to have an idea how many will be attending. The Park Service provides drinks and snacks and wants to be sure there is enough for everyone. See you there!!! ***

I just wanted to thank you for working with us on providing a wonderful star gazing program. We are very excited to have you and PAS at north mtn visitor center on Sept 6th and October 3rd. Hope all is well this summer, and that you are staying as cool as possible. Have a wonderful independence day week! Allyson Brennan, Park Ranger II, City of Phoenix

New This PAS Season!!!

By Terri, Events Coordinator

We have a January PAS Meeting in 2009!!! You won't want to miss this. We also have lined up an awesome speaker for

this meeting with a fantastic topic for him to share with us. It won't fall on the first Thursday in January as that is January 1, New Years Day, but it will be on January 8th, the first (non holiday) Thursday in

January. Mark it on your calendars. We hope to continue this scheduled event every year going forward. JANUARY 8TH 2009 - BE THERE!!! ***

PAS Meeting of the Minds

Next meeting: Sept 25th, 2008

Location: PVCC G-147 7:30 - 10pm

If not enough topics are on the list, we cancel the meeting.

Current topics are:

Matt – Idea for fund raiser – Kevin Art in Postcards & Greeting Cards for sale

* Star Party – in case of bad weather – back up plan – Presentations – List

* Photo Shoot: Cancel idea of group photo and go with space & telescope images?

* Which Hubble images to use for the PAS Stickers? ***

Private Star Party Review 7/28/08

By Terri, Events Coordinator

This was a quick "We need a star party" situation. Gloria contacted me and asked if we do star parties for small groups and so Rod and I did the star party. Below is my thank you email to Gloria and her thanks back to Rod, Sue, William and I for an informative star party night.

Gloria, I wish to thank you so much for inviting us to your daughter's home to show you the night sky. We enjoyed it!

The sky was cooperative as far as clouds, the temperature wasn't too bad, and we even saw just about everything we set out to see.

I do hope the boys will enjoy the items we gave them, the ones I specifically picked out to help peek their interested in astrono-

my: Moon pamphlet, Messier objects, the averted vision card and the Rise and set time of the planets. I hope they are of good use.

We appreciate your invite, we had a great time and I want to thank you so much for the fun. We enjoy sharing the night sky with anyone willing to listen and enjoy it with us and your family is AWESOME!!!

Many, many thanks to you from Rod, Sue, William and Terri (me).

Gloria Writes:

All thanks to you and your amazingly well-informed and engaging crew. We all had a great time. The boys were talking about what they learned all the way home. Eli says Jupiter is is favorite planet forever.

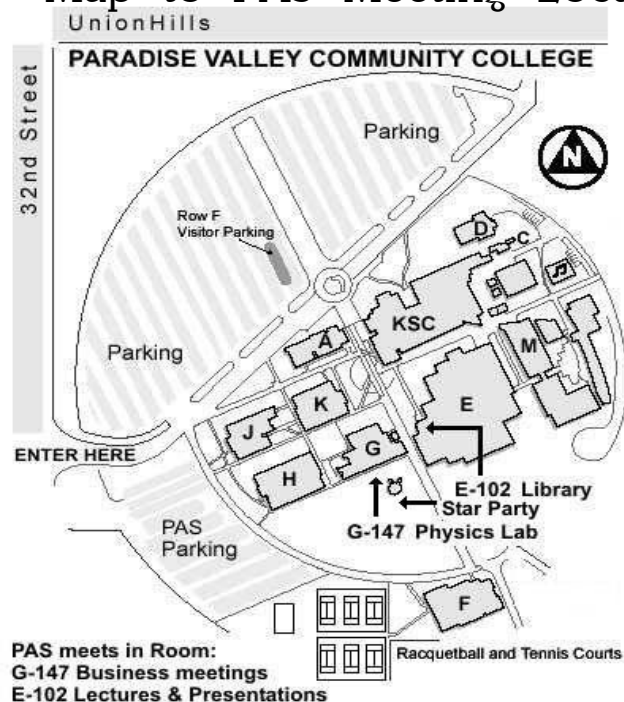
Millan liked the clusters and nebulae. And the adults enjoyed the star party just as much as the kids. I certainly learned a lot and it was such a special experience to see the night sky through the eyes (and scopes) of experts who love astronomy so much.

Thank you for the time and thought that went into putting the program together too. We appreciate the materials, and I'm going to get the boys onto your website Kids Corner today, and will make sure they have all the information you sent me about other websites.

Glad the weather cooperated to make it a memorable evening for all of us. You all are just terrific.

*All the best,
Gloria ****

Map to PAS Meeting Location



Black Canyon City Site



For More Information See Page 2

September

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 PAS General Monthly Meeting		6 5 Cuttin' Edge Observatory Dark Sky Site (Private) North Mountain Park Visitor Center Star Party
7	8	9	10	11 PVCC Star Party by Telescope Dome	12	13
14	15	16	17	18	19	20
21 Free Bookman's Telescope Workshop	22	23	24	25 PAS Meeting of the Minds (Business Meeting)	26	27 Cuttin' Edge Observatory Dark Sky Site (Private) Mike's Star Party & Lecture (Private)
28	29	30				

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What's Up For September?

By Rod Sutter, PAS President

Planets

Name	Date	Rise	Set
Mercury	09-1-08	08:05	19:53
Venus	09-1-08	07:52	19:57
Mars	09-1-08	08:21	20:10
Jupiter	09-1-08	15:40	01:33
Saturn	09-1-08	06:13	19:03
Uranus	09-1-08	19:22	07:04
Neptune	09-1-08	17:21	04:41
Pluto	08-1-08	14:22	00:50

All Times Arizona Time

September 1 2008

Sunrise: 06:12

Sunset: 18:34



New: August 30



Q1: September 7



Full: September 15



Q3: September 29

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