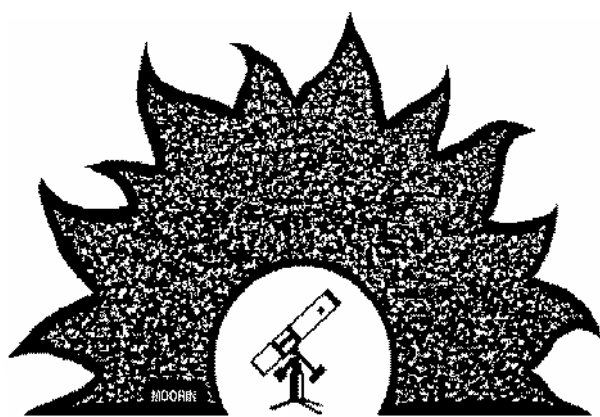




PAStimes

Phoenix Astronomical Society
www.pasaz.org

November 2007
Volume 60 Issue 2

PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

Next Meeting November First

Our Speaker for November is Ross Tucker. Tucker is a NASA Solar System Ambassador. His topic for the lecture is *From the International Space Station to the Galactic Map: Radios and Astronomy*.

We asked Tucker for a short summary of his background and this is what we got.

"Ross Tucker spent most of his senior year in high school building antennas and drilling holes in school walls. Despite this seemingly delinquent behavior, NASA gave official permission to the Arcadia HS Amateur Radio Club to use their new ham radio station to speak with Astronaut Bill

Shepherd aboard the International Space Station. To learn more about this and other interesting uses of radio waves, please join Ross on November first for a short talk."

As Tucker says please join us for the meeting as usual at the PVCC library at Paradise Valley community College

October Pas Meeting Review

By Terri, V.P. of PAS

We had a fabulous meeting with Melissa Morris from ASU. Melissa did a presentation on her Master's Topic. She was very informative and it was a great meeting. The topic turned to Meteorites and Mike Marron, Dave Hellman, and Bob Holmes were on the edge of their seats listening intently. We had a great turnout. Thank you all for attending. We hope to see you at the Nov. 1st PAS meeting.

Our announcements included Jerry who talked about the rocket launch. If you are interested in attending the rocket launches, and they are fun and exciting, go to the webpage on the back of this newsletter in the PAS Contacts list, or call Jerry Belcher for more info. I went to one of the rocket launches and really had a great time.

Rod was a little late getting to the meeting due to a Dr visit, so I took over opening and closing the meeting. I want to thank Rod for taking over as President. He has given me a chance to do other things in PAS and not feel so overwhelmed by having to run the meetings. I appreciate him and thank him. I don't mind once in a while filing in for him as far as opening and closing a meeting. I am hoping he will take Presidency for quite a while as he is really

a great President for PAS.

The 50/50 raffle saw \$32, \$16 of which went to PAS. I wish to thank John Pulis for doing a spectacular job of signing everyone in. I want everyone to know that that is a very important job of the Host. When I was looking to get into an astronomy club, I visited all three here in Phx, SAC, EVAC, and PAS. And PAS was the only club that had someone to greet me every time I came in the door. At that time it was Harold Moorin. And Harold started this snack idea. He would bring cookies to the meeting, every meeting. And he would greet you and make you feel welcome and help you find a seat, and just be a very important part of PAS. The other two clubs didn't do that. They didn't seem to care if I was there or not. The other thing PAS did was if you were brand new, the newbies would stand up and just give first name and how they got involved in astronomy as an introduction. We'd also introduce the Officers each month which I felt was very important for the new people to know who they should be talking to when it comes to the club, the people who hold together the club. Currently I try to make the rounds talking to people from 7pm until we start the meeting by doing the 50/50 raffle ticket sales. I like

doing that because I meet all the people. I haven't been talking to them much lately but I want to make that more of a club thing. The Officer's of the club, aside from Mike who does it every meeting, should be talking to the new people during that half hour of set up before the meeting. Just think, I could have ended up an editor/Prez and Vice for one of the other clubs it wasn't for the welcoming feeling I got from PAS thanks to Harold Moorin, and Dan Heim. I'm so glad I met Harold. Hope you all have felt welcome within the walls of PAS. We hope to see you again soon at our events!

Paradise Valley Community College Society Star-party

By Rod Sutter, President

On Saturday, Don, Sue and I headed out to Paradise Valley Park for the meteor shower. The only problem was the clouds moved in and made our night the usual wash-out. After only 45 minutes I asked Don what he thought about calling off the Meteor Shower Viewing and he agreed we should cancel it. After all, the Baseball and Soccer field lights and $\frac{3}{4}$ Moon and clouds made our night done early.

Arizona Sky

By Leah Sapir

This month, the summer triangle will still be visible in the western sky, but our favorite fall constellations will be high overhead, and the winter circle will be starting to appear in the east.

The great square of Pegasus will be just south of the zenith, with the horse's head and forelegs extending towards the west, and Andromeda following along towards the east. (The horse's northern foreleg – formed by beta Pegasi, in the northwest corner of the great square, and eta Peg – points right towards Deneb.)

When we face north, Cassiopeia will be high up, parallel to Andromeda, and resembling the letter "M", with the pentagon or house-shape of Cepheus slightly below and to the left. Perseus will be to the right of Cassiopeia, below Andromeda.

Of course, the highlight of the season is the Andromeda galaxy, easily visible in binoculars or a small telescope. And, how exciting when we realize that the light from these stars has been traveling for about 3 million years in order to reach us!

But, our knowledge of the galaxy's distance is a somewhat "recent" discovery. Less than a hundred years ago – at the beginning of the 20th century – astronomers still debated the nature of the "Andromeda nebula" and other "nebulae" (such as M51, the Whirlpool) that exhibited a spiral shape. The general opinion was that the universe consisted of nothing more than the Milky Way, and the "Andromeda nebula" and other "spiral nebulae" were nearby objects – perhaps a new solar system being formed. Some astronomers suggested that objects might exist outside the Milky Way. But, how could we tell?

The key to the mystery was found in the constellation Cepheus. The left side of the "M" of Cassiopeia (as seen at this season; i.e. the right side of the "W" – alpha and beta Cassiopeiae, aka "Schedar" and "Caph"), points toward a small triangle of stars in the top right corner of Cepheus: delta, epsilon, and zeta Cephei. Zeta's magnitude is 3.4, and epsilon is 4.2, but delta's magnitude is variable. In 1784, an English teenager named John Goodricke happened to notice that over a period of about five days, delta Cephei suddenly brightens as much as zeta, then gradually dims until it resembles the magnitude of epsilon. (Since all three stars can be seen with the naked eye – or at least

with binoculars, if your sky is not dark enough to see them otherwise – this is an interesting process to observe on your own. A complete cycle takes less than a week!)

Fast forward to the 20th century: in 1902, Henrietta Leavitt was working in the astronomy department of Harvard University. Her job was to analyze photographs taken by the Harvard Observatory in Peru, and to find variable stars in the Magellanic clouds. She noticed something very interesting: for "Cepheid variables" (variable stars with the same pattern as delta Cephei), the period of variation was proportional to their brightness.

When we look at stars in the sky, we have no way of knowing how far they are. A medium-bright star could be small but close, or large and distant. But if we would know how bright a star really is, then we could use its luminosity to calculate its distance. The Cepheid variables that Henrietta Leavitt had discovered in the Magellanic clouds were all about at the same distance from us, so even though that distance wasn't known, the differences in luminosity were real differences and not due to varying distance.

Astronomers such as Harlow Shapley were soon able to put this discovery to good use. Cepheid variables could be used as a "standard candle" for determining the distance of other objects, such as globular clusters. Cepheid variables tend to be very bright, and can be seen for long distances.

And in 1924, Edwin Hubble used the 100" telescope at Mt Wilson to study the "Andromeda nebula" – and discovered Cepheid variables in the spiral arms! Using Shapley's data, Hubble realized that the distance to this "nebula" was over 1 million light years – far outside the Milky Way! (The calculation was later revised, and today the distance is estimated at about 3 million light years.) Our universe had suddenly gotten larger...

Near Andromeda in the sky, Cassiopeia is also a lovely constellation, full of wonderful star clusters. There are two Messier clusters in Cassiopeia (M52 and M103); and another, more whimsical one: the Owl Cluster (NGC 457).

Follow a straight line up along the right side of the "M", from epsilon Cassiopeia to delta Cas ("Ruchbah"), and look for a 5th magnitude star, Phi Cas, just past delta. Phi is one of the owl's "eyes"; move your scope

over to Phi and you should be able to see both of the bright stars that form the owl's eyes, as well as the rest of the cluster forming the owl's wings and tail. The owl can be detected in binoculars, but a small scope will show it better.

Between alpha and gamma Cas is another pretty object: eta Cassiopeiae, a two color double star consisting of a 3rd-mag golden primary and a 7th-mag reddish companion. You'll need a small scope for this one.

Another colorful star in the area is mu Cephei, a red supergiant, also known as Herschel's garnet star. Look for the garnet star about halfway between delta Cephei and alpha Cep, a little to the left of the line joining them (i.e. away from the rest of the constellation). The garnet star should be visible in either binoculars or a small scope.

Between Cassiopeia and Perseus is the double cluster: NGC 869 and NGC 884. Binoculars or a small scope will actually show this better than a large scope can, because the clusters are seen as more compact.

This month, the planets will all be rising and setting earlier than they did in October. Jupiter will still be visible, west of Sagittarius, but both will be setting soon after dark (even considering the fact that the sun sets earlier too).

Mars rises at around 9 pm at the beginning of November, 8:30 in mid month, and 7:30 at the end of the month. It will be a bright reddish "star" in Gemini, not far from Orion's reddish star Betelgeuse.

Saturn and Venus are in Leo. Saturn rises at 2 am at the beginning of November, 1 am in mid month, and midnight towards the end of the month. Venus rises at 3 am at the beginning of November, and 3:45 towards the end of the month.

And, don't miss the Leonid meteor shower on Saturday night November 17-18! While a peak performance is not predicted for this year, the moon will be setting by around midnight, leaving a dark sky to watch for meteors. The meteors are best seen after around 3 am, when we are on the "forward" side of the earth; and of course, in dark skies you should be able to see more meteors than in light-polluted skies.

Join us next month when we continue to explore the autumn constellations and the winter circle. And till then – wishing you clear skies, and happy observing!

Snacks at Pas Meetings - Your Assistance Requested

By Terri, Events Coordinator

I'd like to thank those who brought snacks to the Oct PAS Meeting. Sam brought popcorn which is always a welcome snack. Bobby McGehee brought a box of cookies too, and they were really good. Mike, PAS Treasurer, let Matt, William and I go to the store and pick up some cookies and chips and water, and then I was reimbursed. we spent more than we should have, but I believe we had enough snacks for that meeting. However, we put out the Snack Fund box and brought in \$4.45. I'm going to use that to buy water for the Nov meeting. The Snacks will be up to you! Bring a box of cookies, a bag of chips, just one per family will be fine. Contribute to

the snacks so we have some each month. If there is enough money in the snack fund to get more than just the water, I will let you know in the newsletter prior to the PAS meeting. Otherwise, assume we need more snacks to come to the meeting. PAS put the money out for the first month of snacks, now it is up to you to either bring a snack or donate to next month's snacks. I will purchase water first, each month, and then with the left over money, I will buy the snacks. If you have a preference as to which snacks to get or avoid, let me know. I'm looking for the most quantity for the money, so if one box of cookies has 30 cookies and another box of same cost only has 20 cook-

ies, the box of 30 will be purchased so it goes further among the PAS Meeting attendees. I wish to thank Rod for bringing the napkins and plates. These were purchased for the club for last year's PAS Social. We will be using them at the meetings as well. Rod will bring them each meeting. So, if you do not bring a snack this month, please put a \$1 or \$2 into the snack fund for next month. Watch for the announcement in the newsletter on how the snack fund is doing, and based on that, decide if you should bring a box of cookies or not for that month's meeting. We appreciate everyone's donations to the snack fund, and any snacks they bring to share for that evening. Thank you all! ***

Dinner Prior to the Pas Meetings

By Terri, Events Coordinator

Dinner will now be a monthly event prior to the PAS Meetings (not the MOM's) at the Deer Valley Airport, until further notice. Meet there around 5pm to join us. It is handy to have an RSVP to know you are attending so that we get a table big enough to include you in our group. Everyone is welcome. We go dutch, so plan to buy in your budget. The special that Matt and I love on Thursday's at the Airport is the Filet Mignon. For one price, you get the Filet,

and they DO KNOW HOW TO COOK IT RIGHT, plus all the bread you can eat, freshly baked, and a veggie. You can add a salad, one trip to the salad bar, for additional cost. Most of the time, the Filet & Bread is enough for me, and then having a cookie or two at the PAS Meeting is just enough to make the meal feel good in the tummy. We'd love to have you join us. Let me know by 4pm by phone the day of the PAS meeting or by the day before by email Events@pasaz.org, that you wish to attend

and RSVP for space at the PAS table. We haven't been doing reservations there, we just show up and so far it has worked out well. And if you beat us there, take the table around the corner to the right, along the inside wall, so that you can see the airplanes take off. If you aren't sure where that is, hang out for a while until we show up. There are other specials as well, the Filet is my favorite, but if you want something different, William loves their Giro. RSVP today. See you there! ***

Meteorite Strike in Peru:

By Rod Sutter

President

For those of you that heard about the recent Meteor strike in Peru, this is the update.

Spaceweather.com first reported this incident on September 18, 2007. Now there are reports that the crater is emanating noxious fumes. These fumes are reportedly causing nausea, vomiting, and other sickness. The folks at Spaceweather.com argue that any impact large enough to create a 30 meter wide crater would be equivalent of 1 kiloton of TNT. But Spaceweather.com is saying that they don't believe that

this was a meteor strike. It is more likely the crater of a terrestrial origin. More like a mud volcano that is producing toxic gasses such as methane, water, and perhaps other hydrocarbons. Many hydrocarbons can cause illness. They now think that this crater was caused by an outburst of geothermal activity. It is just a coincidence that the September 13, 2007 fireball just happened days before someone discovered a mud volcano? What ever caused this crater was an interesting phenomenon, so we'll just have to wait and see what other information comes in.

"Super-Meteor" Lights up Northern Sky

By Rod Sutter

President

On September 29, 2007 a fireball reported to be at least 100 times brighter than the full Moon, (known as a superbolide) streaked over Finland. Witnesses say the meteor exploded in mid-air, but it is not yet known if any of the pieces of the meteor hit the ground. It is reported that the rock may have weighed some 200 kg.

Where on Earth Is Mayer, AZ?

By Terri, Events Coordinator

About 9 months ago, I was contacted by a girl scout troupe (Karen is their event coordinator). Karen tells me, I want PAS to do a star party for us for 500 girl scouts up in Mayer, AZ. So, I write back.... Give me a few days to see if my TEAM would like to do that, and we will set it up. So, I do some searching to find Mayer, AZ, and then i send out an email saying we need volunteers. Who wants to go? I get back answers of at least 2 other scopes and I decide, we will do it! So, I write back to Karen, please send me info, how to get there, date of event, etc.... And i get the info back.

So, we currently have 14 volunteers (not 14 scopes, just 14 people from PAS involved) and we are going to be doing this awesome PROJECT STAR PARTY! The date of the event is April 12th. And we have many wonderful plans for this event, with viewing in day and night, plus activities to keep the kids interested.

So, Karen writes to me.... we are having a field trip to Mayer on Sept 17th. Your group is welcome to join us to check out the accommodations, etc. So, Rod, Don, Barb, Sue and I make the trip to Mayer. Wow! What a day!

We get up there and we are taken on a long walk around the grounds. There are the



Covered Wagon Fire Pit

5 of us, and 7 of the girl scout coordinators, plus the tour guide, Amber. Amber takes us on a walk through the main building where they will have Disco dancing. Then, we travel over to the Archery Range, the rock wall climbing range, the craft room, the

covered wagon fire pit, the amphitheater fire pit, the swimming hole, the area we will be doing the night viewing from, the horse corral, and just a grand tour that was really fantastic. The temperature up there was perfect with a little breeze and sunny yet cloudy skies for nice photos. I took over 100 photos that day and they can be seen on line. Drop me an email if you'd like the link to see them in my photobucket photos. We discussed the many things we'd like to do, and then on the way home, we stopped for lunch and discussed it some more. I made notes of what we have in mind and we will be discussing them at the next several MOM's. If you are part of the 14 people PAS TEAM going to Mayer, please try to attend the MOM's so you know what to expect and where we will be setting up. I will be the RSVP, so if you need to know something, ask me. We have great plans for this event, and your input is definitely desired. The 14 volunteers for this star party are: Chris J, Steve P, Barb & Scotty, William & Terri, Rod & Sue, Don, Bruce, Bette & Ed, Sam & Mike. If I missed anyone in that list you need to let me know so I can make sure you have accommodations for the night. They are putting us up in a nice building for sleeping that night, and they are feeding us all our meals. Plus, if I get the paperwork from Mike, we will be being reimbursed for gas.



The main building

Where on Earth Is Mayer, AZ?

We need to plan for these things for that trip: Carpool and Caravan meeting times and location, handouts, objects to be viewed and by who, and a few other details. Please try to attend MOM's to get that info and be part of the TEAM that makes Mayer a successful event. There will be 900 girl scouts total plus 300 adults, and 14 of us. We will be very, very busy at that star party. Come plan with us! ***



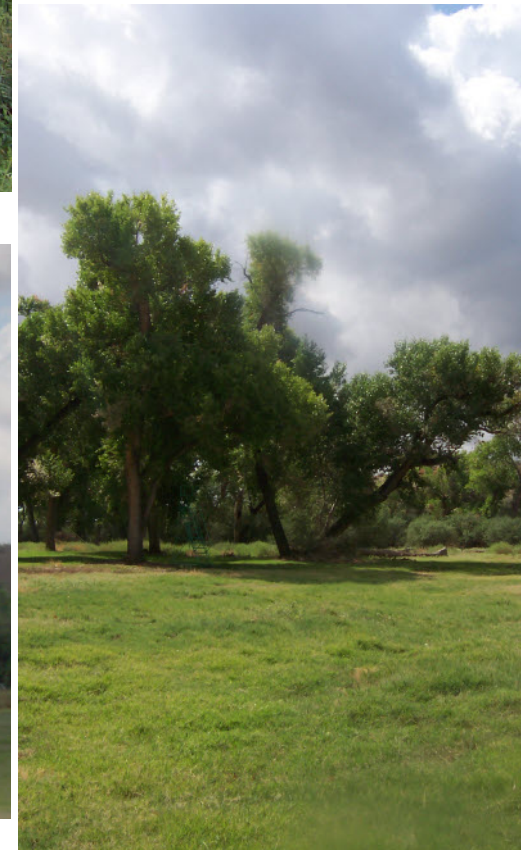
Archery range



A Beautiful Place to Take a Dip



The cows should not be there in the Spring...a fence was down after a wind storm



September Meeting of the Minds (Mom) Review

By Terri, V.P.

We had a fantastic Meeting of the Minds this month. For those of you who do not attend this meeting, I want to really impress upon you what you are missing. Read the article in this newsletter MEETING OF THE MINDS - WHAT IS IT? and see that it isn't all business stuff we discuss. We have fun at these meetings and would love to have you attend them as well.

The attendees of the PAS MOM's showed up around 7pm, like usual. Rod wasn't there yet so the Mayer Team got together and discussed more about the event. Don is working on duplicating the Averted Vision Cards in Color, plus he has been asked to make more PAS bookmarks for this event, also in color. Leah wasn't there but will be receiving a bunch of papers for duplication for this event in the amount of 500. Recall there are 900 girl scouts and 300 volunteers. We don't think all 900 will come visit us, but if they do, we will have 500 bags of info to give out. That's a lot. We also discussed the Mars Parties, the Moon, Sun and planet lithographs we need to acquire, and a meteorite page done by Mike.

We set a deadline to get all printing items to Leah by Oct 17th so that we can get them from her at the PAS MOM on Oct 25th. At the January MOM we will be assembling the packets at the end of the meeting. Help is needed. We will doing in January and what we don't complete, will be done in February at the MOM.

Rod took us on a tour of the Mayer site through photos that he and I took that day. We decided we were doing the daytime

event around the covered wagon area and the night time event in the baseball field.

We discussed the PAS Postcards we are making. Don is producing them, and I will be mailing them out. The idea is to get more paid jobs for the Star Tours group. If you aren't on the list and you are a current PAS member, let me know you wish to be in that group. When a star party comes available and we need volunteers, those who wish to help out, contact me and are chosen to help out. Paid star parties are limited on how many scopes they want. So first to respond gets the job.

In the upcoming events on line and in the newsletter, you will see that there are 2 Bookman's Telescope Accessories workshops coming up and for those, Chet will be doing a demo at each. "Beginning Imaging" + "Advanced Imaging." You won't want to miss these bookman's events. RSVP with me to day to attend or help out. We will need one telescope for display purposes at these events. Let me know if you can bring your scope.

The Club Telescope. The talk is to get a 14" SCT. Sonny is in charge of this planned item. He is doing the research to see who can donate to the purchase of this scope (grants, etc). And then the topic turned to where can we house this scope? Mike thought about doing it, but later mentioned he may not be able to. His house would be an awesome location for a club scope. We are thinking of mounting it someplace and we are having Dave Hellman build the dome for the club. This is still all in the talking stages but it is a great idea.

So, Mike is researching having the dome built on his property.

We discussed the location of the PAS Social. Right now it was decided to tentatively have it at the location we had the social last year. The date hasn't been chosen as we have to find out when the building is available, from Rod, but that is our first choice. The second location is Chris's home in Goodyear. Now, we decided it wouldn't be fair, if we chose Chris's home as our first choice, because his wife will be having a baby around the same time of the Social and it would put her out of her home to have a bunch of noisy, fun people having a party. So, if last year's location fails for some reason, we will definitely take Chris's offer. The date is not set but is in the planning stages for Jan 19 or 26th. Depends on availability.

It was decided that we do some research and find out what banks have what percentage rates for CD's and put some of the PAS money into the bank to make more money. Several folk are researching that and reporting back at the next MOM with the details.

This was a very productive meeting. We talked about a bunch of topics and resolved some of them, and assigned work to be done on others that we will review at the next MOM. I do hope everyone can make it to the next meeting. Thanks you for attending this one, see you at the Oct 25th MOMs. ***

Free Bookman's Telescope Workshop 9/9/07

by Terri, Events Coordinator

In attendance at the Bookman's Telescope Workshop was Chet, Chris, William, Rod, Sue and myself. We had a great time! We had 1 person walk by, one joined us, and another popped in just to grab handouts. The one that joined us is Mike Stewart. Mike had on a very nice space t-shirt. He hung out with the whole time. Our topic changed from astronomy in the field, to photos that Chris had taken at the star party the night before. Awesome photos. Rod shared a program with us called Orbitron. That was awesome, too. And Rod and I updated his electronic calendar of events. We all had a great time and then went to

Carlos O'Briens for dinner afterwards.

The next Bookman's Telescope Workshop will be October 28th. This workshop will be an Accessories workshop. That's the one where you bring examples of the topic with you, such as eyepieces, share what you know about them, and I bring all the handouts we have gotten from companies wishing to be part of our workshop. I will be contacting companies again for more handouts, so watch for new ones to arrive. The extra catalogs we received, like from Edmond Scientific, will go in the bags we make for the Mayor Girl Scout star party in April. We hope to see you at the next workshop, and BRING A FRIEND! ***

It's a Party! At the February Meeting of the Minds

When: Feb 28th, 2008

Where: PVCC G-147

Time: 7pm to 10pm (if needed)

Purpose: Assemble 500 bags for handouts for the Mayer Girl Scout Star Party event
Attendance: Everyone willing to help assemble bags (Children can attend if willing & able to help assemble bags and stay on task until completed)

Topic: Mayer Girl Scout Star Party Apr 12th - No additional topics to be discussed

Bring: A snack to share (Bag of chips, cookies, crackers, one per person attending), Buy your own drink on campus in vending machines, or BYO drink with you. No alcohol

TEAM: Bring all items needing to go into bags

What is the Meeting Of The Minds?

The Meeting of the Minds (MOM) is a business based meeting. PAS is a club. Clubs have to have business meetings to discuss important issues the club is having to deal with. The general lay out of the meeting is to arrive by 7pm, collect topics, put them on the wall in a list in some organized fashion (that's why I have you send them to me by email ahead of time), and then Rod leads us through the topics until we have discussed everything in the list. Then, with our spare time, if we have any, we have in the past watched videos, we've talked about upcoming events to great lengths, we've hung around the G-147 room and Dave has shown us his meteorites. In general, we have a great evening. And if you feel you can not stay for the whole meeting, beginning to end, stay as long as you can. Meeting ends at 10pm, at the latest. Some meetings we've finished and closed by as early as 9pm, so it is not much later than staying for a PAS Meeting. We like to take advantage of the time we have in that room to use the A/V and Internet connections to share with the group, really cool things. The other day, Chris Johnson and Rod Sutter were sharing astronomy programs and showing us the new addition to Google Earth, which is Free on the internet. We

really do have a great time, after the business end is done. And if we did this meeting during the PAS meeting, we'd be running our PAS meetings clear to 11pm or midnight, which wouldn't work in the Library at PVCC since they close at 9:30pm. So, by having this secondary meeting, the last Thursday of the month, right before the PAS meeting, we are leaving the PAS Meeting to be mostly brief announcements and the main speaker, which I feel is more important to the public who attend, than having to sit through business stuff. Besides, who wants to be a PAS speaker if they travel all the way up from Tucson to do the presentation and then find out they are stuck there until AFTER all the business stuff is done, and to top that off, they have to drive home after the meeting ends, which might be midnight or so, depending on all the other stuff going on. This is what the other 2 clubs in town do. They also have a members' show and tell, which is fine if you have the time to do it, but I'd rather give our speakers about 1.5 hours to do their talk and include Q & A, rather than doing member's night which can be made into a PAS meeting by itself. The only time we need to bring up business stuff at the PAS meetings, is when we have to vote on something that takes a majority of PAS Members to pass.

Otherwise, you can read about the decisions we made at the Meeting of the Minds, here in the reviews I write about the meetings. And if you don't agree with the decisions we made, it is like the voting system we have here in the USA. If you don't attend and vote, you can't complain about our decisions. We think these things through for at least a month before making decisions on some of the larger items we have discussed. One of our newest topics is the purchase of a loanable PAS telescope. And if it is big enough to mount someplace, where can we mount it for use by PAS? this might be a topic you want to talk with PAS about. Come to the next MOM's, October 25th, and let's hear what you want to share about that topic. You might be the info we are seeking. Don't miss the next meeting! All of the important decisions are made at the MEETING OF THE MINDS, and we'd like your input too. This meeting is open to everyone (no children please) but only PAS members vote on decisions. However, we don't have that many voting nights. We mostly discuss stuff and decide as a group, without a vote. But if it is a large item, such as a purchase of a scope for the club, that may involve some voting and you won't want to miss out on that. See you there! ***

Life The Universe and Everything

Well not really, but pretty close. What am I talking about, you ask. Why Mike's wonderful lecture series, of course.

If you missed it you missed something really special. Mike has a unique view of the universe...one aspect is that he believes there was no "big bang." He believes that there was a series of small explosions through out the universe.

I will not give any more details of his

theory as it would take up more space than I have in the entire newsletter. Let me just say that he has condensed it down to an 8 hour lecture series split into four two hour lectures.

He starts with Quantum Physics-string theory. He claims that a six year old can understand it.

In the remaining three lectures he

shows how the Solar System and the galaxy can be explained by reading the magnetotails each object emits.

He is thinking of giving his lecture again possibly in the winter this time. If he does be sure not to miss it.

There will be audio CD's of Mike's third and fourth lectures available, probably in December.

Paradise Valley Community College Society Star Party

By: Rod Sutter, President

I was running late, as usual, on Thursday October 18, 2007. When Sue and I showed up at the College, I thought for a second that I had the wrong day. Then Sue reminded me that she had talked to Karen and Barb about the evening and then I was sure that I had the right night. After we parked and started to set-up Don showed up, then Barb.

Before we had our scopes ready to go

we already had students coming by. While Sue was entertaining them and trying to answer their questions, Don, Barb, and I had a chance to finish setting up. Don went to the Moon, Barb went to M-15, and I went to Jupiter. After the students had a chance to view the objects, we moved to 3 different items. Then Sue told me that the students had to view 8 objects for the evening, per the teacher's requirements. So once they had viewed their first objects we just kept on moving to different things until they had

the 8 objects that they needed. Dave had Bubba open and operating. Once he had it set and ready to go, after showing M-13, he moved to Uranus. What a beautiful sight, the blue glow was very distinct. Both Dave and I thought that Uranus looked like it was about 95% full. Once most of the students left around 8:30, Dave said that everyone was done and gone if we wanted to call it a night. So with that we closed up shop and headed home.



The Red (Hot?) Planet

by Patrick L. Barry

Don't let Mars's cold, quiet demeanor fool you. For much of its history, the Red Planet has been a fiery world.

Dozens of volcanoes that dot the planet's surface stand as monuments to the eruptions that once reddened Mars's skies with plumes of glowing lava. But the planet has settled down in its old age, and these volcanoes have been dormant for hundreds of millions of years.

Or have they? Some evidence indicates that lava may have flowed on Mars much more recently. Images of the Martian surface taken by orbiting probes show regions of solidified lava with surprisingly few impact craters, suggesting that the volcanic rock is perhaps only a million years old.

If so, could molten lava still occasionally flow on the surface of Mars today?

With the help of some artificial intelligence software, a heat-sensing instrument currently orbiting Mars aboard NASA's Mars Odyssey spacecraft could be just the tool for finding active lava flows.

"Discovering such flows would be a phenomenally exciting scientific finding," says Steve Chien, supervisor of the Artificial Intelligence Group at JPL. For example, volcanic activity could provide a source of heat, thus making it more likely that Martian microbes might be living in the frosty soil.

The instrument, called THEMIS (for Thermal Emission Imaging System), can "see" the heat emissions of the Martian surface in high resolution—each pixel in a THEMIS image represents only 100 meters on the ground. But THEMIS produces about five times more data than it can transmit back to Earth.

Scientists usually know ahead of time which THEMIS data they want to keep, but they can't plan ahead for unexpected events like lava flows. So Chien and his colleagues are customizing artificial intelligence software called ScienceCraft to empower THEMIS to identify important data on its own.

This decision-making ability of the ScienceCraft software was first tested in Earth orbit aboard a satellite called Earth Observing-1 by NASA's New Millennium Program. Earth Observing-1 had already completed its primary mission, and the ScienceCraft experiment was part of the New

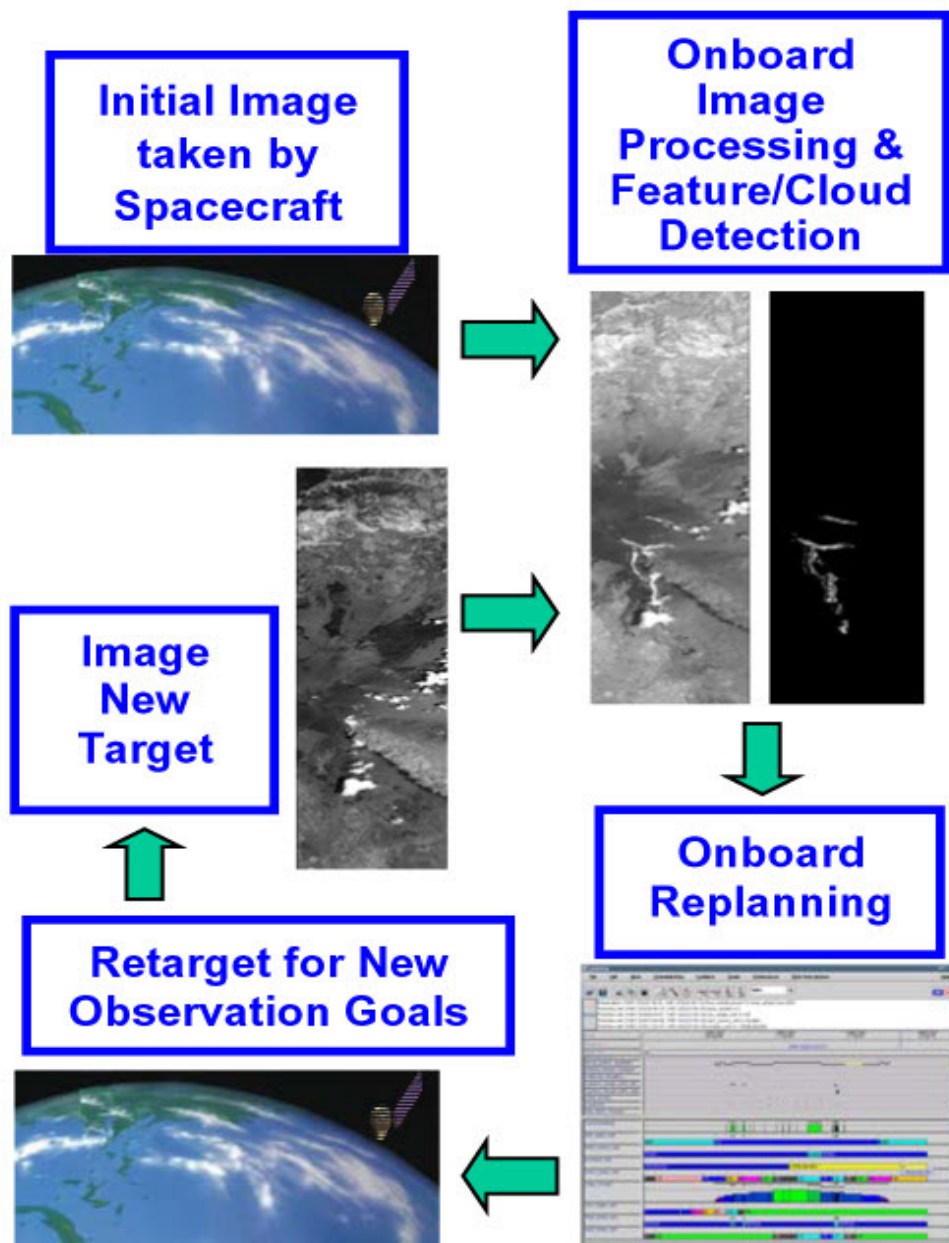
Millennium Program's Space Technology 6 mission.

On Odyssey, ScienceCraft will look for anomalous hotspots on the cold, night side of Mars and flag that data as important. "Then the satellite can look at it more closely on the next orbit," Chien explains.

Finding lava is considered a long shot, but since THEMIS is on all the time, "it

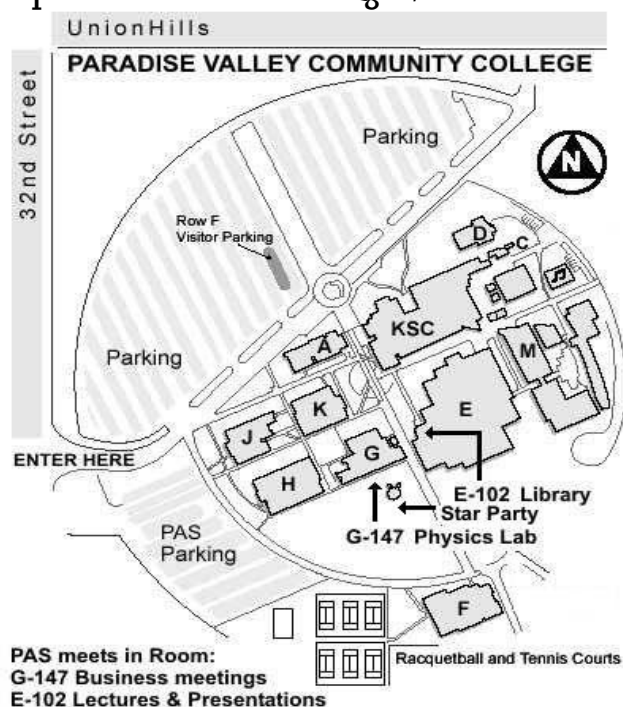
makes sense to look," Chien says. Or better yet, have ScienceCraft look for you—it's the intelligent thing to do.

To learn more about the Autonomous ScienceCraft software and see an animation of how it works, visit <http://ase.jpl.nasa.gov>.

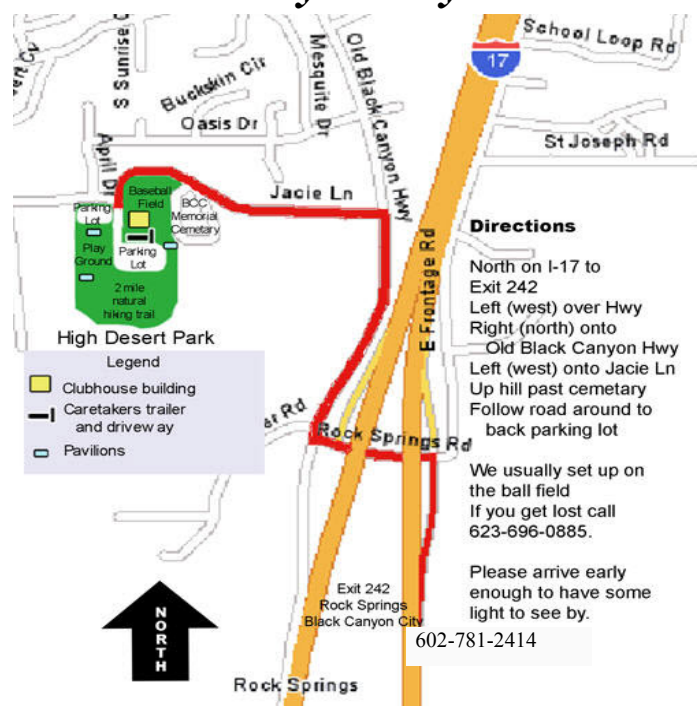


This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration. Just as changing cloud patterns on Earth were identified using Earth Observing-1's Advanced Land Imager along with ScienceCraft software, the THEMIS instrument with Sci-

Map to PAS Meeting Location



Black Canyon City Site



OUTDOOR EVENTS ARE WEATHER PERMITTING, RSVP'S REQUIRED

Nov. 1 Thursday	7 pm to 9:30 pm	Paradise Valley Comm. College 18401 N. 32nd St Phoenix, AZ 85032 Library	PAS General Meeting Ross Tucker, NASA Solar System Ambassador "Current Space Mission Updates"
Nov. 3 Saturday	6 pm to ?	Mike's Historic Cow Track Ranch in Carefree	PAS Star Party*** Members Only*** RSVP with Mike by 12 noon the Friday before. This event will be from 6 pm to whenever, so bring sleeping bags and any supplies you'll need if you plan to spend the night. It's always a fun, educational trip-to-the-past event at Mike's home.* Weather Permitting *
Nov. 10 Saturday	Sundown till ?	High Desert Park Jacie Ln Black Canyon City, AZ 85324	PAS Deep Sky Star Party All are Welcome! \$2 per car donation request. RSVP with Barbara Hartman to attend.* Weather Permitting *
Nov. 11 Sunday	4:30 pm To 6:30 6:30 pm	Bookman's Back room 8034 North 19th Avenue Phoenix, AZ 85021-5101	PAS Bookman's Free Indoor Telescope Workshop I-17 & Northern - Bookman's back room R.S.V.P. is required by email to Terri Finch or by phone at 602-561-5398 to attend or help out.
Nov. 16 Sunday	6pm to 9pm	Reach 11 19224 N. Tatum Phoenix, AZ	City of Phoenix Parks Star Party/Camp-out *** Volunteers Needed *** *Private- Only for children enrolled in the WOW program* Call my cell 602-615-0382 if you have any problems. Joshua Parnell, Recreation Coordinator II, Thunderbirds Teen Center & WOW Desk: 602-495-7321 Pager: 602-201-1634 RSVP with Chet Schuler if you can help out.
Nov. 15 Thursday	6 pm to 10 pm	Paradise Valley Comm. College 18401 N. 32nd St Phoenix, AZ 85032 near dome	PAS/PVCC Public Star Party *** Volunteers Needed *** RSVP with Terri Finch to attend or to help out. * Weather Permitting *
Nov 17 Saturday	6 pm To 10pm	Paradise Valley Park 40th and Union Hills Rd Phoenix, AZ 85032	MARS PARTY Come see Mars as it make a close approach to Earth and shows us awesome details on its surface. RSVP required with Rod to attend or help out. Volunteers are asked to arrive around 5pm for Solar set up and viewing, and for traffic / vehicle control.
Nov. 24 Saturday	6 pm To 10pm	Paradise Valley Park 40th and Union Hills Rd Phoenix, AZ 85032	PAS Public Full Moon Party *** Volunteers Needed *** Moon Treasure Hunt (see craters, mountains and valleys on Earth's only natural satellite - the Moon). RSVP with Terri Finch to attend or to help out. * Weather Permitting *
Nov. 29 Thursday	7 pm to 10 pm	Paradise Valley Comm. College 18401 N. 32nd St Phoenix, AZ 85032 Union Hills and 32nd St. Room G-147	PAS Meeting of the Minds No children please (business meeting)

Ads in PAStimes

Ads in PAStimes run for a month and may be renewed on a month by month basis, if submitted by deadline, space permitting.
 Ads in PAStimes are FREE to members all others are asked to make a small donation. Donations are to be sent to the Editor who will forward them to the Treasurer.

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

To:

{MM:First Name} {MM>Last Name}
{MM:Address Line 1}
{MM:City} {MM:State} {MM:ZIP Code}

Upcoming PAS Meetings

November 1st: Ross Tucker JPL SSA "Planetary Exploration"
December 6th Bobby McGehee Retired Physicist "New Universe Theory"
February 7th Loretta McKibben AZ SED "Mars"

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 USPS and the Internet. All Issues are available for download on our website 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.

What's Up For November?

By Rod Sutter, PAS President

<u>Planets</u>			
Name	Date	Rise	Set
Mercury	11-1-07	5:33	16:56
Venus	11-1-07	3:14	15:31
Mars	10-1-07	21:22	11:46
Jupiter	11-1-07	10:03	19:59
Saturn	11-1-07	1:52	14:52
Uranus	11-1-07	15:06	2:38
Neptune	11-1-07	13:51	00:36
Pluto	11-1-07	10:17	20:48

All Times Arizona Time

Meteor Showers

11-3-2007 Taurids
11-17-2007 Leonids

November 15 2007

Sunrise: 6:56

Sunset: 5:28



Q3: November 1



New: November 10



Q1: November 17



Full: November 24

Phoenix Astronomical Society Contact Info

<u>President / Librarian</u>	Rod Sutter	602-971-9129	President@pasaz.org
<u>Vice President / Events Coordinator</u>	Terri Finch	602-561-5398	VicePresident@pasaz.org
<u>Treasurer</u>	Mike Marron	480-488-3031	Treasurer@pasaz.org
<u>Newsletter Editor</u>	Don Boyd	480-963-7189	Editor@pasaz.org
<u>PAS Host</u>	John Pulis	623-570-5308	
<u>Webmaster / Dark Sky Advocate</u>	Barbara Hartman	623-374-5364	Webmaster@pasaz.org
<u>WOW Contact</u>	Chet Schuler	480-272-4545	chetsch@cox.net
<u>Rocketry Liaison</u>	Jerry Belcher	623-328-9290	http://ahpra.org/launches.html