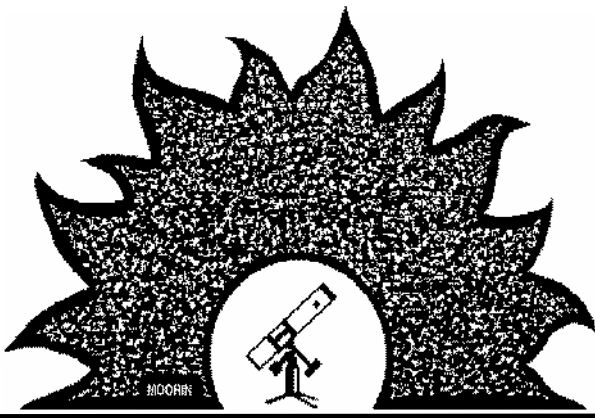




PAStimes

Phoenix Astronomical Society
www.pasaz.org

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PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

“Atmospheric Optics” presented by Dan Heim

This presentation started out as a 35 mm slide show (back in the days), based on a slide set I purchased from Robert Greenler of UW Milwaukee. His book, "Rainbows, Halos, and Glories," is considered to be a classic on that topic. The book included the slide set, and I still have both. Since that time, I've digitized some of those slides and added a few of my own. So this is a talk more about atmospheric optics and less about astronomy, but the slides are beautiful and include many esoteric phenomena. §



MEET THE OFFICERS



PAS Vice President & Event Coordinator:
Terri Finch"

PAS Meeting Sept 6

By Terri, Event Coordinator

The meeting began with a fine group of people attending. We had 10 PAS members attend and 6 new people. The meeting opened with President Bruce limping around with a cane, as he hurt his back. So, after he opened the meeting, I took over. Jenny helped set up the computer for Alex Vrenios's presentation. He wanted the Mac side of the computer. So, while Jenny did the setup, I welcomed the new people to the club and we did introductions. All the officers said who they were, and the rest of the PAS members joined in. We met Bill from Ahwatukee, Iris and Dale who have a 10" Meade, Diane, Earl, and Robert. Tony snuck in after introductions but signed in at the meeting. Thank you all for attending.

Alex took the floor and did a very nice, super quick presentation of his experience with the Venus Transit. He put his Venus Transit movie on a DVD and has donated it to the club. Currently I have it but it will go in the PAS Library for borrowing as soon as I get in touch with our Librarian. He also donated a book about Venus Transits to

PAS. It is named "Transit of Venus 1631 to the Present" by Nick Lomb. Alex said it was a very enjoyable book to read.

When Alex finished, I took the floor again, while Jenny set up Mike on the PC side of the computer, and announced some upcoming events. The newest event I mentioned was Estrella Observatory which is owned by Yves Klein, a new member to PAS. Yves has offered 4 dates to enjoy his observatory. The first date was set up as a get to know the area, help with set up of his 24" scope, a potluck and socializing party. That event was held on September 8th. The next three events at this observatory are dark sky observing events. They will have potlucks and lots of fun. They are for PAS Members only and the dates of these events will be Sept 14, Oct 13, and Nov 9th. I also shared other events with the group that were public, since we had so many public at this event. Then Mike took over for over an hour with his presentation named "Earth Shattering Impacts." Mike's presentation was very well done. He covered the oldest

craters found on Earth to the newest.

Before I closed the meeting, we discussed that the PAS Dues are due, I mentioned that everyone should please pick up after themselves as we aren't really supposed to have snacks in that classroom, I reminded those who haven't turned in their W-9 to do so, and provided the page to do it, and we talked about the Antenna's star parties and the Mayer star parties.

I wish to thank everyone who brought snacks. The water was provided by PAS this time. It was a case that was purchased for the Venus Transit event and didn't get used there. The popcorn was provided by Sam and very much appreciated. Bruce brought the cookies and donuts. Mike brought the salsa. We hope to see you at the next meeting in October. Many thanks to Jenny, who didn't get to stay for the whole meeting but was there at the beginning and end, for helping to set up the guest speakers. And many thanks to Alex Vrenios and Mike Marron for being the guest speakers at this meeting. §

Phoenix Astronomical Society Contact Info

<u>President</u>	Bruce Wurst	480-269-3355	President@pasaz.org
<u>Past President / Librarian</u>	Rod Sutter	602-971-9129	PastPresident@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</u>	Chris Johnson	602-456-2456	Webmaster@pasaz.org
<u>Rocketry Liaison</u>	Jerry Belcher	623-328-9290	http://ahpra.org/launches.html

October PAS Events

By Terri, Event Coordinator

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

October is the first of our very busy months from now to end of May 2013. If you can assist at any of these events, Please be sure to RSVP. Your telescope & help is greatly appreciated!

Oct 4: PAS Meeting 7pm to 10pm PVCC Main Campus LS-205. Bring a snack to share. Bring a friend! Everyone welcome!

Oct 5: Private School Event from 6:30 to 9pm. RSVP is with Terri Events@pasaz.org.

Oct 9: CTCA (Private) 7pm to 9pm. RSVP with Joe. PAStimes Star Tour Members only.

Oct 11: PAS Indoor / Outdoor Public Astronomy Event at PVCC Main Campus in G-147 and by Telescope Dome. Star party outdoors, and indoors has hands on demos. RSVP is required with Terri Events@pasaz.org. 7:30 to 9:30pm.

Oct 13: Dark Sky Antenna's Star Party

for PAS Members only. Event begins at sundown and goes to dawn. RSVP is with Eric for this event. Bring your own everything.

Oct 13: Estrella Observatory Star Party 5:30pm potluck, 7:30 observing, PAS Members only. RSVP is with Yves for this event.

Oct 14: Bookmans FREE Telescope Workshop 3:30 to 5:30pm. RSVP required with Terri Events@pasaz.org. Bookmans is at 19th Ave & Northern, meet in Musical Instrument section of the store. Please provide type of scope & number in your party, when you RSVP.

Oct 17: ASU West Open House & Star Party 7pm to 9pm. RSVP is with Paul for this event. Scopes are needed & appreciated.

Oct 18: PVCC Black Mountain Campus Public Star Party. Black Mountain campus is located at 60th Street and Carefree Hwy. RSVP is requested. Event is from 7pm to 10pm.

Oct 19: Private Star Party at DBG from 7pm to 9pm. RSVP is currently closed for this event. Bruce & Terri will cover it.

Oct 20: Astronomy day at Mike's home in Carefree. Orionids Meteor Shower may also be seen at this event. 5pm potluck, 7pm Star Party. Everyone welcome, public event. RSVP is required with Mike for this event.

Oct 21: Orionids Meteor Shower peak. Meteor shower best viewed after midnight. No event on this date, but enjoy the shower from your backyard.

Oct 23: CTCA Back up date for Oct 9.

Oct 25: Meeting of the Minds - Voting Meeting. All PAS Members are requested to attend, or send their vote in by proxy. 7pm to 10pm PVCC Main campus Rm LS 205.

Oct 27: Mike's private Halloween party with potluck at 4pm. Come in your favorite costume for a fun filled eating, socializing, scary movie time in Carefree. Bring a scary, but not gross, movie to share.

Nov 1: PAS Meeting 7pm to 10pm PVCC Main Campus LS-205. Bring a snack to share. Bring a friend!§

Voting Meeting Oct 25 Rm LS-205 7pm

By Terri & Don

PAS is calling a Voting meeting on Oct 25 at 7pm in Rm LS 205 at the PVCC Main campus. We will be voting on the following items: PAS needs to hold a meeting to amend its Bylaws. We need to do 3 things:

1. Remove any references to the club selling sky and telescope subscriptions.
2. Take out the requirement to have all checks signed by both the President and Treasurer.
3. Change it to read that disbursements

of funds may be made by check, cash, credit card, or any other legal means. Right now disbursements are only to be made by check.

This will be a voting meeting, so PAS Members Only are asked to attend. If you can not attend and wish to vote by proxy, please contact Terri Events@pasaz.org to put your vote in on the three items listed above. Bring a snack to share, and we will cover any topics on the MOM's Agenda

after the voting portion is complete. The MOM's Agenda can be found at this link:
<http://www.pasaz.org/forums/downloads.php?do=file&id=60>

And I'd like to open this meeting up to mini presentations by PAS Members who wish to share their experiences, photographically or just verbally, for the 2012 Solar Eclipse of May 20 and the Venus Transit of June 5. Sign up with Terri to do your presentations at this meeting. §

PAS Dues & Name Badges

By Terri, Event Coordinator

PAS has beautiful Gold name badges with black lettering and the PAS Logo on it. I believe there is an example of the name badge in the forums. And I will be putting in an order for Name badges soon. So, if you are seeking to get a name badge ordered, please download a dues sheet, and fill it out with the appropriate square chosen that says NAME BADGE and put in the name, the way you want your name spelled, and give the \$15 to Mike, Treasurer, so we can get that ordered for you. I'm thinking of having the order done in time to deliver the

name badges to you at the November PAS Meeting.

As long as you have the Dues sheet in your hands, take a moment and upgrade your dues to pay for 2013. Dues are due in September and your dues go for one year, January to December. So, paying now, helps Mike keep his records up to date, and your dues go to Dec 31, 2013.

You can do both of these items on one page. Dues are \$25 if you are receiving your newsletter via the internet. This saves PAS money and is very much appreciated. Those

who receive their newsletter in paper format though the POST Office, need to add an additional \$10 for postage & Printing.

We do hope you will stay with PAS and tell your friends. Speaking of which, at the bottom of every dues sheet is a referral section. Fill it out and give it to a friend. Have them join PAS. Get 5 new members to join PAS and you get the following year's membership free. So, for 2013, you can start now, refer 5 friends, who join PAS, and you will get 2014 membership for free. Start now, take advantage of 4 extra months to find your 5 friends. §

Ted Finch Obituary

By Terri, his daughter-in-law

On Aug 29, 2012, Ted Finch, age 80, passed away after 2 years of Alzheimer's in a group medical care home, a possible stroke and finally a heart attack (complications of the Alzheimer's). Services for Ted were held on Friday, Sept 14, privately, in Phoenix. Many thanks to the PAS members who responded to the email I sent out about Ted passing away, with sympathy cards to both William (my husband and son of Ted) and Annette (Ted's wife and William's mom). Ted was actively involved in PAS many years. He attended the meetings regularly before being admitted to the care home. He will be missed. §



MEET THE OFFICERS



PAS President: Bruce Wurst

Mikes Lecture Party Aug 18

By Terri, Event Coordinator

It was an awesome afternoon. The clouds were taking over the sky, so none of us were thinking of having a star party, however, the temperatures were a little more bearable since the clouds covered the beaming sun. In attendance were 14 people: Suzanne & Jeremy Deitrich, Kevin Harcey, John Pulis who just turned 90 in April!, Eric & Ora Steinberg, William & Terri Finch, Mike Marron (host of the party and Lecturer), Don Boyd, Sam & Frank Insana, Heather who lives near Mike, & Deborah.

The evening started with a slow potluck. Meaning, 5:30 came and went, and we weren't eating. Some more food arrived and no one was eating. Then Sam showed up and we all started eating. There was Church's Chicken, homemade hummus, a homemade quiche, and a few other items

that were very tasty. Many thanks to those who brought and shared food. After food, and about 7:30, the group moved to the living room of Mike's home to watch his lecture "Tales of Plasma." Revised.... Mike tried to smooch a 6 hour lecture into 2 hours. About 1.5 hours into the lecture, a few folk had to leave as they had to get up early in the morning. Some of us were getting restless because the chairs we were on, were not comfortable for that amount of time. The lecture concluded. It was very good, but could have been organized a little better. So, Mike wants to do this lecture again, for PAS, for a meeting, after he refines it a little more.

The party moved back into the kitchen with snacking. Sam found an old channel on Mike's TV and put it on there. He watched

"Get Smart" and a few other old time shows with Frank. William was asked to help with computer stuff. Kevin and Mike's Joe were on Mike's computer for a little while. The party broke up the first time about 9pm, when the early birds left. Then, again about 11:30, and we stayed until Kevin, John, and Don decided to leave, about 1:30am. We missed a PAS member who said they were planning to attend, but didn't show up - Mikey Webb. We look forward to the next event at Mike's on Sept 15 when it is PAS Members Only, Dark Sky Star Party. Be sure to figure out what you want to bring for the potluck ahead of time and sign up on PerfectPotluck.com. We will see you there! §

CTCA SkyTour Event Aug 7

By Joe Collins

Attendees: PAS members: Don Boyd, Albert Tucker, Joe & Renee Collins. Fifteen CTCA attendees, six patients, six care-givers, two employees and one child joined us up at the 5th floor garden terrace for the evening SkyTour event.

Conditions: We cancelled solar viewing due to excessive heat, opting for a longer evening event. Even after sunset, it was pretty hot outside, over 106 at the start. Visibility was good. Cloud striations spanning from east to west, cleared within the first hour. Equipment: Don: 4.5" Newtonian Reflector w/Meade ATX goto mount. Albert: 5" Takahashi refractor telescope and 8" Meade SCT with 26mm & 9mm Explore Scientific eyepiece. Joe Collins: Celestron CGEM 11" SCT with 26mm eyepiece, binoculars & iPad.

Joe Collins <jcollins79@cox.net >: We were treated by CTCA's CancerFighter's and New Patient's groups to a sumptuous dinner at the CTCA Cafe - it was rather gourmet- blue cheese encrusted organic Kobe steak, grilled vegetables including but-

ternut squash and sides: Salad & Soup, Ice-cream & Bread Pudding & slices of Boston cream pie. The Cafe had vegetarian chili, sea bass, a rice & couscous dish, and a rather tasty watermelon & blackberry salad. Thanks to Scott Wellman for arranging this for us [no meal tickets].

We had 12 patients & caregivers at event start, and three 'night owls' that stayed with us all the way up until 12:30am for lunar viewing. It was a good call moving the Aug 14 event to this date! To combat the heat and low sugar, the CTCA Cafe hospitality crew provided iced water & sodas, Cinnamon & Sugar Pita chips, and a variety of bakery cookies for our customers.

We offered our customers several viewing options: Don Boyd brought his 4.5" Newtonian Reflector, Albert Tucker brought his 5" Takahashi refractor, and I brought my C-11 SCT, iPad and binoculars. Don had to make a run for D-cell batteries to power his Meade mount, and Don & I both had to redo our star-alignments a couple of times to get precision, but, we had

plenty of time since the event did not start until 8:30pm. Scott Wellman of CTCA provided color copies of our event handouts just in time. Thanks Scott!

We started the evening looking at Saturn & Titan and ended in the early morning looking at Ibrum Mare on the Moon. I was able to correlate and show customers what we were seeing through the telescope with a labeled map of the Moon by using the iPad App: Moon HD. Odd, but this app showed the phase of the Moon incorrectly for our position and time, so I will have to talk with the developer about that!

Telescopic Viewing: During the course of the SkyTour event (3 hours), we looked at about 18 or so astronomical objects of opportunity- Two additional planets: Mars, Neptune; Four globs: M13, M2, M5, M22; Three Open Clusters: Butterfly, Horseshoe, Beehive; Three Planetary Nebula: M57 Ring Nebula, Blue Snowball, Helix Nebula; Five binary/multiple stars: Polaris, Cor Caroli, Albireo, Nu-Draconis, Alcor/Mizar and one Galaxy: The central core of Andromeda-

See CTCA Aug 7 on page 7

CTCA SkyTour Event Aug 28

By Joseph T Collins CancerFighter @ CTCA WRMC & PAS Member

Attendees: PAS members: Albert Tucker, Joe Collins, Mike Marron & Ofelia Waters. Additional volunteers: Laurice Dee Ph.D. We had a combined total of twenty-one CTCA patients, care-givers, and employees join us at the Café for a meteorite display, and evening SkyTour program on the 5th floor garden terrace followed by extensive lunar viewing. Conditions: We cancelled solar viewing in favor of doing the meteorite display due to excessive heat. The SkyTour event outside had a good turnout despite the heat and humidity. Visibility was good the entire night for lunar observation. Cloudiness only started to interfere with objects other than the Moon after 9:30pm.

Laurice Dee Ph.D. <launchspace@msn.com>: Despite the heat, the CTCA SkyTour event that was held on the 28th of August was a smashing success! A great time was had by those of us that participated in the event: Joe Collins, I, Mike Marron, Ofelia Waters, Albert Tucker, and some cancer patients and their caregivers. Three telescopes were set up for night viewing, and some meteorites were displayed as well. I enjoyed discussing with

one of the patients and his caregiver about the solar system and the kind of planets – rocky planets and gas planets – that we have in our immediate neighborhood. I must say that while Mars, Saturn, Uranus, Neptune, and Pluto appeared in the night sky, it was our Moon [aka La Luna] – in her waxing gibbous phase – that truly stole the show, as well as my attention! Speaking of La Luna, I believe some of the cancer patients and their caregivers enjoyed looking at her detailed surface through Joe's and Albert's telescopes. My hope is that the patients and their caregivers will return for the next event which will be in September. The date of the event will be determined based on the weather. Our Moon will be in the evening sky during the latter part of September. Other than that, the planets – as well as the deep-sky objects – will definitely be a sight to behold!

Joe Collins <jcollins79@cox.net >: It is always a treat to have dinner at the CTCA Café before we start our event – This evening there were Catfish tacos, stuffed bell peppers and gourmet wild rice with mushrooms & peas along with a generous salad/soup bar. Based on a hand count and

the number of flyers we handed out, we had about twenty-one customers, at least eleven downstairs for the meteorite display and at least ten more upstairs for the SkyTour. Mike and Ofelia started the meteorite display early ~7pm. Albert, Laurice and I ran the SkyTour from 8pm until about 9:30pm and continued with observations of the Moon until 1:30am.

Dr. Laurice Dee provided a detailed report of her observations and exploration of several interesting features of the Moon visible in the C-11 SCT; so, in addition to 'show and tell' astronomy for our CTCA customers, we were also able to do some serious amateur astronomy at the end of the event. Equipment: We offered our customers three viewing options: Albert Tucker brought his 5" Takahasi APO refractor and 8" Meade SCT with 26mm & 9mm Explore Scientific eyepieces and I brought my C-11 SCT with 26mm Meade and 13mm Televue Pantopic eyepieces. Albert, thankfully, lent me his 1.25" lunar filter for the evening. Without the lunar filter, the Moon was blazing in the C-11 SCT. Odd coincidence- both Albert and I had problems with GPS fix this night, but no worries, we just manu-

See CTCA Aug 28 on page 7

Many Thanks to Steen

By Terri, Event Coordinator

On Aug 23, William Finch, Terri Finch & Don Boyd met at the Desert Botanical Gardens to scout out new places to hold event. The 2 places used previously have issues. The Agave Pit has been over grown with trees to the West. This is a good problem to have, as a garden should grow. So, the Eastern horizon is still awesome to view that direction, but to the West, we lose our objects about 1.5 hours before we should. They set too early. The other location that has been used previously was the Pumpkin Patch. I like this location because we can drive up to the locaiton, unload, and have plenty of room to set up and move around. It's great for larger parties. However, DBG then has to supply a port-a-potty because it is a long walk back to the buildings on the DBG grounds.

So, on this night, the three of us met up with Steen Allard-Lawson and scouted out

new areas to have viewing sessions at DBG. We found 3 new places. In our travels, we met up with a Turtle that had a group of people hanging around viewing it. We also saw a snake in the cactus. It was a fun walk.

I wish to thank Steen for the vigorous, exhausting, brisk walk around DBG while we did our scouting. It was not too hot but very humid. The sun went down and the humidity went up and we were all sweating by the time we were done. But, what came of it, was worth the trip. And I thank Steen for taking us on the walk, returning to the locations a second time to judge how dark the location is and for just being a great guide during this scouting event.

What we did was walk the grounds for the areas Steen thought would work best, by dusk. And along the way we found a great one to hold the Kids events. And then, after

we picked 3 places, we went back after dark to see if they would work well. We compared where Saturn & the Moon was to judge where they would set against the tall hill we were on, and to get the placement of rising and setting objects. I believe the three places we picked will be awesome to do future events at DBG. Many many thanks to Steen! And many thanks to Don, for his input as well. Having an extra set of eyes to pick locations, really helps out. I can't wait to try the new places.

I also wish to thank DBG for mentioning our two upcoming events in their Garden Calendar. The Sept-Nov 2012 issue has both events listed. On page 24, "Astronomy in the Garden" for Oct 19, and on page 32, "Fall Star Party" for Nov 10. We look forward to doing these exciting events at DBG. §

Estrella Observatory Sept 8

By Terri, Event Coordinator

In attendance this fine night were: Yves Klein - host of the party, Albert Tucker, Mikey Webb, Mike Marron, William & Terri Finch & Kevin Harcey. The evening started out with not knowing what door to go in to get into Yves's house. After we found Yves and Mikey talking in the Observatory, we got to work setting up a potluck. This was an amazing potluck. Single guys really know how to provide food for gathering! We set up the potluck and then Yves wanted to go out to the Observatory and show us his telescope while there was still daylight. So, we went out there and WOW, what an impressive scope! The scope is set up to do remote photography, and is not a visual scope, but it is huge, awesome and really something to see. Albert and I scouted the ground and area for setting up our scopes. Looks great, hard ground, might be a bit of a workout to get your scope to the best place to view, but it is ok. Also, William got eaten by mosquitoes, so bring bug repellent when you attend. Proper shoes are suggested as well.

So, we all moved back into the house for some wonderful discussion & munching. The food was awesome. Mikey brought these ham rolls, and Albert brought some chicken that was so delicious. Yves hit Whole Foods and got a variety of small boxes, fruit and drinks. Pizza was there,

many drinks to choose from. Good food, great friends, and a great way to spend a Saturday evening. If you missed this event, you best make it to one of the next 3 happening soon: Sept 14, Oct 13 and Nov 9.

After eating and stuffing ourselves with a most delicious dinner, we left everything where it was and went outdoors as it had gotten dark and it was now time to see what this telescope could do. So, we went to the observatory and opened the doors to roll out the scope. It took a bit of work to get it out, but once out, it was very impressive in size. Part way through the time we were enjoying the outdoors, Mikey, Kevin and I went back to the kitchen to clean up from the potluck. We then brought drinks out to everyone outside. We all enjoyed the sitting wall Yves has around the scope area, and talked, and had drinks, and then the wind came up a bit too strong. So, in fear of the scope being damaged by flying dust and other stuff, we decided to roll the scope back into his home in the observatory. Once finished, we moved back into the house for more chatting. Mike said he was getting tired and didn't want to leave but felt he needed to before he was too tired to drive home to Carefree, so he said good night and the rest of us followed.

It was an awesome evening. And I'm looking forward to the next three, dark sky,

PAS Members only events at this location. Many, many thanks to Yves for inviting us to be at his observatory for these star parties! Photos of this event are in the PAS Photo Gallery. §

Meet The Officers



PAS Treasurer: Mike Marron



PAS Newsletter Editor: Don Boyd

Perseids Meteor Shower in Carefree Aug 11

By Terri, Event Coordinator

William Finch and I arrived about 5:10pm with pizza in hand. Kevin Harcey and Frank Insana were already there with Mike Marron, the host and home owner. The sky looked good at 5pm, for a Meteor Shower party. Frank had brought Church's Chicken, Kevin had 2 Rotisserie chickens and with the pizza we brought, it was a feast. Diane Smith, of DFAC and Judy Wolff were also in attendance. We all enjoyed some food, and over ate. Around 7pm Sam Insana showed up with Kevin's Birthday Cake. Then Yves & LaShon Klein arrived with a delicious salad. Don came at 8pm with a pizza. Mikey Webb showed up with bottled water and food. We shared the cake with all who were present. Then around 8:30 to 9pm we had Jeremy Dietrich & his Mom Suzzane arrive and Leah Sapir. 2 Guests arrived around that same time, Jolynn & Karen. Attendance was 17. That's pretty good. Mike had gotten 12 public RSVP's, but the weather probably chased them away. All of the PAS Members who said they were attending, did.

So, we started out with light clouds while it was daylight. Then it clouded over, and several times during the night, Sam, Diane, Mike, William took turns going outside to see if we could see any meteors. Yves & Lashon set up a blanket and were viewing the meteors. Mike was in and out of the house, enjoying the meteors and doing tours of his home to the new people who had showed up. Around 11pm most of us were outdoors in chairs, relaxing and watching the show. The sky went from clouded over, to partial clouds where by

maybe 25% was open to the sky, and then clouded over, and then maybe 10% was open to the sky. It changed all night long. We started out viewing to the North West, as that part of the sky was clear. Then, the clouds changed position and we were viewing to the North East. Some folks left around 12am. Another bunch left about 2am. 3am was the best viewing and then about 4am, the clouds took over totally, and we gave up. Judy, Frank and Kevin spent the night at Mike's. Mikey, William and I, left about 4:15am. It was a wonderful, tasty, filling, great friends party. We hope to have another successful Meteor Shower party on October 20 for Astronomy Day at Mike's house and Nov 17th as a public party, also at Mike's. See you there!

Sam & Frank Insana write: AUGUST 11-12 METEOR PARTY

Mike hosted the Perseids meteor party. Several people arrived around 5 pm for the potluck. Over the next few hours several kinds of delicious foods were brought including chicken, chicken, and more chicken. There was also some pizza, chips and salsa and other goodies. It happened to be Kevin's birthday, so Frank and Sam got Kevin a shirt stating "I have a theoretical degree in Physics" and a book entitled "The History of Farting," plus a delicious lemon birthday cake. When Kevin cut the cake a mysterious sound began filling the room, luckily there was no smell.

We had a big dust storm come in, which was awesome just seeing it cover the surrounding hills and mountains. It also helped make a beautiful sunset with red,

orange and purple colors. Thanks to William Finch we got to see the footage of Mike and the tiger he "played with" in Mexico. Seeing the tiger going for his face with his paws was really entertaining and helped explain Mike's looks.

From around 11 pm until around 2 am, we lounged around outside looking at the meteor shower. It averaged about 1 meteor per minute, but we would have seen more if it wasn't for the clouds covering over half the sky. There were several fireballs, and a really impressive one streaking through Casseopia. Some of the meteors were blue.

There were a total of 16 people at the party, not including the couple that pulled into the driveway and slept in the back of their pick up. They were probably wanting to get away from the city lights and see the meteors not knowing there was a party here. Also they may have been trying to avoid the cop driving in the wash with a bright searchlight. Mike shined a laser at the cop to see if he was lost trying to find the shooting star party (Mike not knowing he was a cop at the time).

The next day the dust was still in the air all around us making us wonder how we could have seen so many great meteors that night. Birthday Boy Kevin, Mike, Mike's Joe, Judy, and Frank went out to Sedona to hike West Fork of Oak Creek Canyon. It was clouded over and cool, full of multi-colored flowers and berries, with lush grass and ferns, hanging water gardens, plus a couple of snakes, etc.. With almost no sleep, Frank did manage to make it home Sunday night. §

Bookmans Aug 26

By Terri, Event Coordinator

It was a fine, warm day. William Finch and I arrived at Bookmans about 2:45 for set up. We got our table & chairs set up and then the 1 RSVP showed up. Martin Clayton came in, signed in and asked how to get his scope into Bookmans. While he was fetching the first part of it, Don Boyd showed up. We opened up the event to questions. While chatting, Kevin Harcey, John & Ruth Pulis showed up. The whole 2 hours were very interesting. Martin shared how he got his 10" scope for nearly nothing,

then took it to Starizona to get it cleaned & made useable. We shared info such as best books to use to get started & Martin shared the book that Starizona had him purchase: "Finder chart of Bright Telescope Objects" by Brent Watson. We talked of programs for astronomy for on the Android phone and home computer. It was a very good conversation. I wish to thank Martin for joining us. I took several photos of the Musical Instrument section of Bookmans. Their selection of musical instruments has definitely grown

since we started doing these events in that section of the store. You can view those photos in the PAS Photo Gallery. We hope to see more of Martin. He had 3 scopes currently and based on what he said, we predict he will have aperture fever soon. Thanks to all the PAS Members who attended for support. Next Bookmans FREE Telescope Workshop is scheduled for Sept 30. See you there!§

CTCA SkyTour Event Aug 7

Continued from page 4

da. Even though many of these objects were small and faint, all of the patients and caregivers expressed how happy they were able to even see these objects as we told them stories, provided information on size and distance and showed them Hubble images of what they were glancing at through the telescopes.

Naked Eye Viewing: We were able to see the ISS streak overhead. The Hubble was also out, but we could not see it. Several people saw shooting stars in the region of Capricorn, but we could not see any early Perseids meteoroids to the north as our view was blocked by the north elevator tower. No flares, or U.F.O.s tonight, though we were buzzed by a few light planes.

Towards the end of the event, just before the moon broke out of the clouds to the East, around 11 o'clock, we were graced

with the 'dancing flight' of 3 skyhawks overhead. They kept us company until we broke down our telescopes during a cool breeze between midnight and 1am.

Don Boyd <azphotog@gmail.com>: I just wanted to add a couple of objects to Joe's list, to the globs, M3, and to the open clusters, the ET Cluster which I think was in some very thin clouds so did not show well. I also found the NGC number for the Horseshoe cluster: NGC663 [Caldwell number C10]. There are also a couple of smaller clusters near it that might show in my scope for future viewing targets: NGC659 and NGC654.

Albert Tucker <atuk@usa.net>: Joe, Your report of the CTCA event is spot on. The first scope I used was the Meade 8" SCT and viewed many of the objects you noted. Several customers were able to see

very faint messier objects and were aware of the technique of averted viewing. I used an LPR filter that helped reduce some of the effects of city lights. Everyone enjoyed the faint fuzzy objects that are very hard to see. Later I switched to the Takahashi refractor to view planets. Several of the customers were affected by the heat and made several trips for viewing after cooling off inside but asked good questions which indicates a greater interest in astronomy.

We extend our thanks to Marisa Benincasa of CTCA for logistical support; Jennifer Kehren for advertising; and Scott Wellman for printing out our handouts and arranging meals. We also thank the CTCA Café hospitality staff for providing refreshments. Thanks to PAS members who attended for working and volunteering their time to make this event a success and enjoyable for CTCA patients and caregivers! §

Continued from page 4

ally input our location and local time and we were good to go for our star alignments.

We started the evening looking at Saturn & Titan prior to setting and ended in the early morning looking at the Moon surface details.

Telescopic Viewing: During the course of the SkyTour event (3 hours), we looked at a dozen or so astronomical objects of opportunity, most of them listed in our event handout- The Moon, Mars, Neptune, Uranus; Two globs: M2, and M13; One Open Cluster: Beehive; One Planetary Nebula: M57 Ring Nebula; Four binary/multiple stars: Polaris, Cor Caroli, Albireo, and Alcor/Mizar. The brightness of the Moon and high altitude clouds obscured deep space objects and galaxy viewing to night. Regardless, all of the patients and caregivers expressed how amazed they were able to even see these objects as we told them stories, provided background information on size and distance, showed them Hubble images of what they were glancing at through the telescopes and gave them handouts to take home and read more about the objects they viewed.

Mike Marron <primefactory@q.com>: I provided a one-page addition to our event handout from U of A about meteorites. The meteorite display went over well. The patient and caregivers who stayed for at least an hour were the three from Peru that Ofelia Waters translated for, plus two other cou-

ples. Two of the staff and two more patients showed passing interest, and I spent some time with two more people on the 5th floor rooftop terrace. One guy from Washington State thinks he has found a meteorite!

Albert Tucker <atuk@usa.net>: The CTCA event was well received and several of the viewers commented that this was their first view through a telescope. It always gives me goose bumps when I hear the awe and elation at seeing things for the first time. We did have a major issue with anomalies affecting our guidance systems, another good reason to bring along a pocket sky atlas. I may have a work around for the lack of GPS signals reaching the observing area above the flux capacitor which affects our tracking. We also had an opportunity to view several loose rivets on aircraft passing over our rooftop viewing area. It might be appropriate to invite an FAA inspector to an event to observe the aircraft flying over CTCA as well. The temperature dropped to a pleasant 99 degrees later in the evening tempting us to stay later but the clouds had a different schedule as the wind changed direction.

We extend our thanks to Jennifer Kehren for advertising, providing meal tickets and color printouts of our handouts. Thanks to Scott Wellman for providing an extra meal ticket for an additional volunteer who showed up at the last minute. We also thank the CTCA Café for providing dinner and ice water in lieu of refreshments. Thanks to

PAS members who attended for working and volunteering their time to make this event a success and enjoyable for CTCA patients and caregivers!

Some helpful Java Scripts from Sky & Telescope:

http://www.skyandtelescope.com/observing/objects/javascript/moon_phases
Moon Phases on any date

<http://www.skyandtelescope.com/observing/objects/javascript/jupiter#Jupiter> and Galilean moons simulator

http://www.skyandtelescope.com/observing/objects/javascript/saturn_moons Saturn & its moons simulator

<http://www.skyandtelescope.com/observing/almanac/almanacCustom?latitude=42.383&longitude=71.133&tzzone=-7&UTdate=now&UTtime=now#> Moon & Planets Almanac

http://www.skyandtelescope.com/observing/objects/javascript/mars_Mars surface profiler

<http://skychart.skyandtelescope.com/skychart.php> Interactive Sky/Star Chart

http://www.skyandtelescope.com/observing/objects/javascript/satellite_tracker/satelliteChooser ISS/HST/STS Satellite tracker

<http://www.skyandtelescope.com/observing/objects/javascript/3304091.html> Jupiter Red Spot transit Calculator

<http://www.skyandtelescope.com/scopes/ealc> Telescope Attribute Calculator §*

CTCA SkyTour Event Aug 28

AZ Sky

Leah Sapir



At this time of year, while the autumn constellations are rising in our eastern sky, the summer constellations are still visible in the west. Among them is Hercules, best known as the home of globular clusters M13 and M92, but harboring some more unusual objects as well. Just south of the keystone, near Beta Herculis, is NGC 6210, a small planetary nebula nicknamed the "Turtle Nebula" because of its shape – with several appendages protruding from its central disk. Through a telescope this 9th-magnitude nebula resembles a small, bluish oval; but the Hubble Space Telescope provides us with much more detail.

Like other planetary nebulae, this is the remains of a star in the last stages of its life. The star's outer layers have expanded to produce an outer gaseous shell, exposing the star's hot core, which currently has a temperature of around 70,000 degrees K. Ultraviolet light from the central star ionizes gases in the outer shells and makes them glow.

The Hubble photo shows a diffuse outer shell and a brighter inner shell; the four "spikes" extending from the edges (at 2:00, 6:00, 8:00 and 12:00) are apparently rapidly-moving jets of hot gas ejected from the central star and streaming through holes in the inner shell. The spike at 6:00 shows a jointed structure, indicating several episodes of gas ejection from the central star. Additional protrusions, such as the ones extending from the inner shell at 4:00 and 10:00, are ejected material that hasn't yet reached the outer regions.

In the main Hubble photo, ionized hydrogen is shown in red, singly ionized oxygen in blue, and doubly ionized oxygen in green. The inset picture shows the core of the nebula, and here red is used for singly ionized oxygen and green for doubly ionized oxygen.

The Turtle Nebula is about 6000 light years away. The inner shell is about ½ light year in diameter, and the tips of the appendages are about 1.6 light years apart. The nebula was discovered by Friedrich G.W. Struve during his double star survey in 1825.

In the meantime, back in our solar system,

most of the planets are evening stars this month, giving us a nice view on these pleasant fall evenings. Saturn and Mercury are low in the west after sunset. At the beginning of the month, Saturn is a little higher than Mercury, but after a conjunction around October 7, Saturn fades away into the sunset. Mercury remains an evening star all month, setting at around 6:45; and since the Sun sets earlier each night, this enables us to view Mercury in the evening twilight.

Mars is still hanging around our western sky after sunset, staying up till around 8 pm. And Jupiter is now rising earlier – around 9:30 at the beginning of October, and 7:30 by the end of the month. So in general, watch for Jupiter to make its appearance in the east a little after Mars sets. Jupiter is now in Taurus, not far from the Hyades, making a nice pairing.

Uranus is at opposition, rising before sunset and up all night. And Neptune passed its opposition at the end of August, so it is now high in the east at sunset, and still up most of the night, but starting to set earlier. Uranus is in Pisces and Neptune is in Aquarius.

The only planet that is a morning star this month is Venus, rising around 3:30 am.

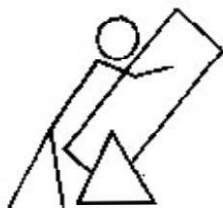
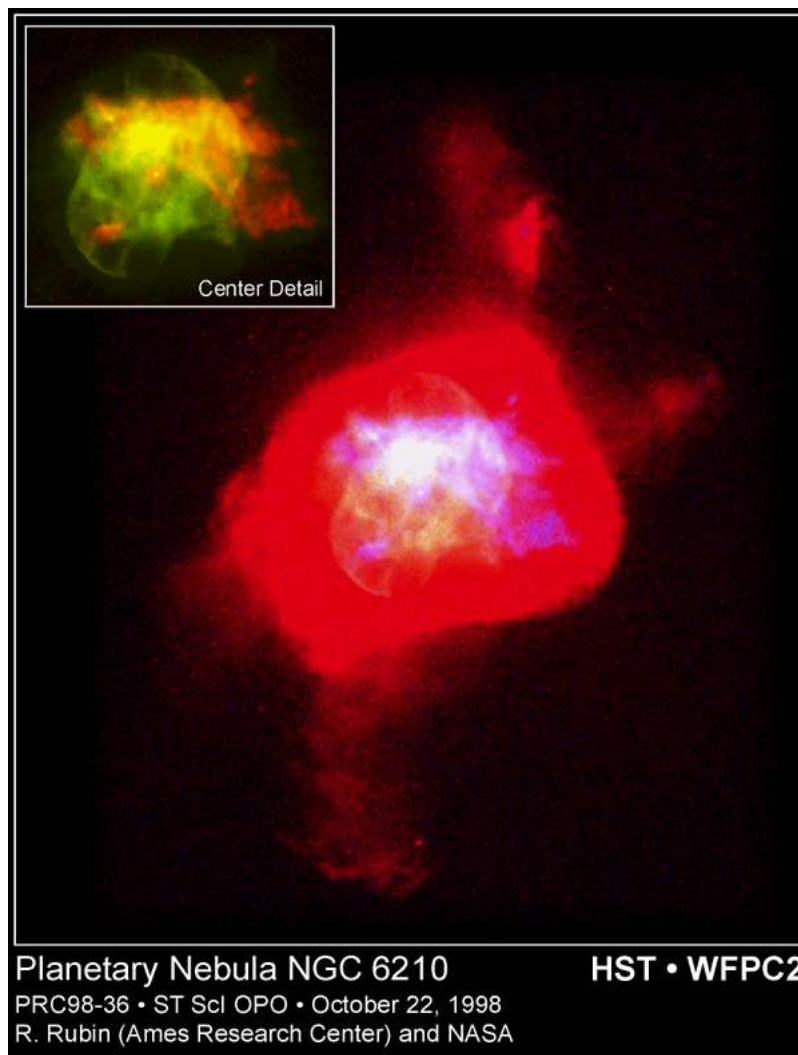
The waning gibbous Moon will be following the Pleiades across the sky on the night of October 3-4 and again on October 30-31; then the following night (October 4-5 and October 31 – No-

vember 1) it will accompany the Hyades. On October 5-6, the Moon will follow Jupiter across the sky from around 10 pm to dawn. Then, on the morning of October 12, a crescent Moon will be near Venus after they rise around 4 am.

The crescent Moon will join Mercury in the evening twilight on October 16, and on October 17 and 18 the Moon will be closer to Mars.

As a special treat, we will have a chance to see some relics of Halley's Comet on the night of October 20-21. This event is better known as the Orionid meteor shower, when bits of dust left behind by Halley's comet will streak across our sky. The first-quarter Moon will set around 11 pm that night, leaving a nice dark sky for viewing the meteors; and conveniently, it's even a Saturday night! So, get your lawn chairs ready for a very special event.

Wishing you all clear skies and happy observing!§



Estrella Observatory Sept 14

By Terri, Event Coordinator

This was one awesome party! Many thanks to Yves for hosting this event. The evening started with a potluck. And, Wow, what a potluck. Yves had set up some long tables along one wall of his kitchen area, and on it were trays of food. Lots of food: salads of many types, a bowl of turkey meat, so much variety! William and I had brought a pot of our famous pinto beans. In attendance from PAS was Mikey Webb, William and Terri Finch and Yves Klein (the Host of this event). Along with the 4 of us, Yves had invited his friends and there were about 20 more people there, eating and chatting and then, enjoying the evening with the 24" telescope.

So, we ate to our hearts content, then went outdoors to set up and work the 24" telescope. The night was good. It was calm for most of the evening, and there was a breeze here and there. The temperature was a bit warm but decent. The skies were clear except for light glow to the South. Since none of the PAS Members had brought telescopes to this event, we helped and had fun working with Yves in setting up his scope. What we concluded at this event is

that his alignment is not good. What he sees on his computer screen, isn't exactly what is being photographed. So, we spent quite a bit of time working on alignment. We first had to find the object in the main 24" telescope. Then, we chose one of the three finders scopes (all of which had a camera attached to it) to align next. And then, finally we used the side mounted laser, and aligned it. Once that was done, then we tried some photography. We started out with the Ring Nebula. Why we picked such a faint object is beyond me but the stacked, taken in several colors - image, came out awesome! I think we got pretty lucky, because then we moved to Jupiter and what we discovered is that the tracking on the scope isn't perfect. So, the images that are being taken about every 30 seconds, or less, are creating multiple images, instead of one stacked image. They leave a path, not a trail... the stars in the images are also leaving trails. We will have to work on this project some more. If anyone has an idea how to resolve this issue, we could use some help at the next event, or possibly at other events set up for just the purpose of doing an alignment.

The evening progressed and before we knew it, it was 3:30am. I had dozed off a little during some of the waiting of the scope to do things, and I was very tired by the time we left. Many thanks to Yves. Awesome event. We will be getting together with him again for 2 more already scheduled events, and possibly some alignment project dates. Hope to see you at the next event!§



Photo taken by Yves Klein through his scope, during this event. Multiple color filters were used to get this image.

Mike's Dark Sky Star Party Sept 15

By Terri, Event Coordinator

Awesome event! Awesome potluck! Many thanks to all who contributed! This evening started with a great potluck. There was plenty to eat and drink. John and Ruth Pulis had brought a whole spread from Boston Market. It was totally yummy. William Finch brought some very HOT chili. In attendance was: John & Ruth Pulis, William & Terri Finch, Mike Marron (Host), Mikey Webb, Sam Insana, Kevin Harcey and his friend Ryan, Judy Wolff, Chet Schuler, Don Boyd, Bob Senzer, and Eric & Ora Steinberg. Dinner was extremely delicious! Thank you all!

The potluck started about 6:30. It was scheduled to start at 5:30, but due to some foods being needed to warm up, it was delayed. We ate and then we all gathered around the cake to sing Happy Birthday to John Pulis. A few presents were given to John. We had him and his wife, Ruth, serve the birthday cake. It was a lovely party for a very importantly aged young man, John Pulis!

Then we went outdoors to set up our scopes. Sam and Eric had already set up and

were viewing while Don, Terri and Mikey set up their scopes. Mikey was having trouble with his scope, so with Don, William and Terri's help, we got him all set up. Once he was aligned and set up, it was so much easier using his scope. He has an 8" Meade, very similar to Terri's 8" Celestron and with a Telrad. So, after he got set up, Terri found a few items in his scope. John and Ruth seemed to really enjoy viewing through the scopes. Mike had the crowd outside enjoying the evening air.

As the evening went on, it got a bit chilly, so some of us went indoors to keep warmer. The scopes stayed set up and we were viewing some really awesome things. This night, the Crab Nebula was seen. Also some Green object that Eric found. And a new object for both Don and Terri's scopes to view, the Dumbbell Nebula. It was an awesome dark sky star party. Lots of sharing. Eric had the Veil Nebula in his scope. Sam had a bunch of cool objects, too. The night went on and about 11:30 Eric and Sam packed up. Don, Mikey and Terri stayed set up until 4:30am. We must be

nuts! But the sky was clear and awesome and worth viewing!

Many thanks to Mike for hosting this party. Many thanks to everyone who brought food to share at this event. And thank you all for attending and wishing John a Happy 90th Birthday!§



John Pulis: Proud to be 90 years old & a PAS Member



Doing Science with a Spacecraft's Signal

By David Doody

Mariner 2 to Venus, the first interplanetary flight, was launched August 27 fifty years ago. This was a time when scientists were first learning that Venus might not harbor jungles under its thick atmosphere after all. A Russian scientist had discovered that atmosphere during the rare Venus transit of 1761, because of the effects of sunlight from behind.

Mariner 2 proved interplanetary flight was possible, and our ability to take close-up images of other planets would be richly rewarding in scientific return. But it also meant we could use the spacecraft itself as a "light" source, planting it behind an object of our choosing and making direct measurements.

Mariner 4 did the first occultation experiment of this sort when it passed behind Mars as seen from Earth in July 1965. But, instead of visible light from the Sun, this

occultation experiment used the spacecraft's approximately 2-GHz radio signal.

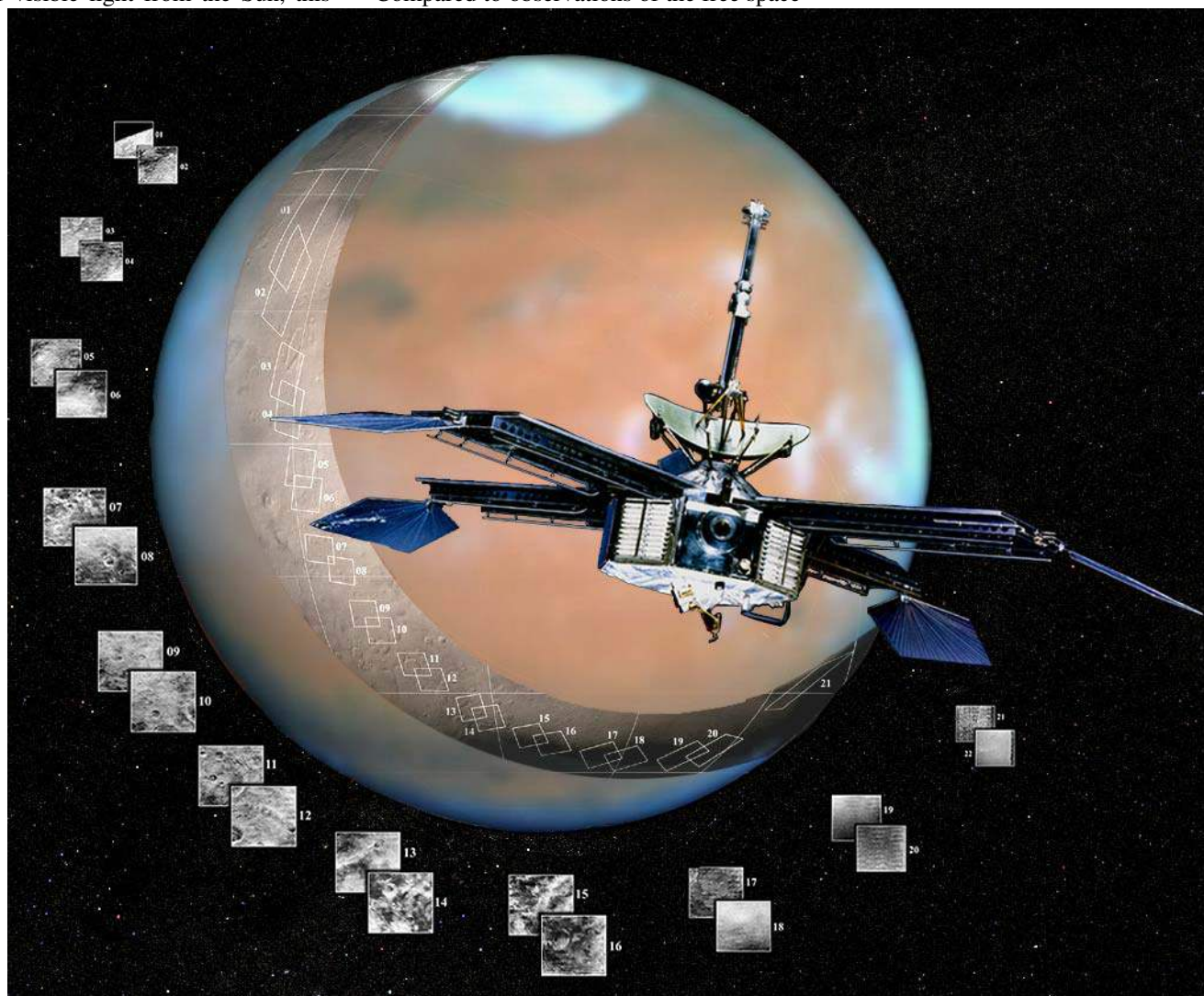
The Mariner 4 experiment revealed Mars' thin atmosphere. Since then, successful radio science occultation experiments have been conducted at every planet and many large moons. And another one is on schedule to investigate Pluto and its companion Charon, when the New Horizons spacecraft flies by in July 2015. Also, during that flyby, a different kind of radio science experiment will investigate the gravitational field.

The most recent radio science occultation experiment took place September 2, 2012, when the Cassini spacecraft carried its three transmitters behind Saturn. These three different frequencies are all kept precisely "in tune" with one another, based on a reference frequency sent from Earth. Compared to observations of the free space

for calibration just before ingress to occultation, the experiment makes it possible to tease out a wide variety of components in Saturn's ionosphere and atmosphere.

Occultation experiments comprise only one of many categories of radio science experiments. Others include tests of General Relativity, studying the solar corona, mapping gravity fields, determining mass, and more. They all rely on NASA's Deep Space Network to capture the signals, which are then archived and studied.

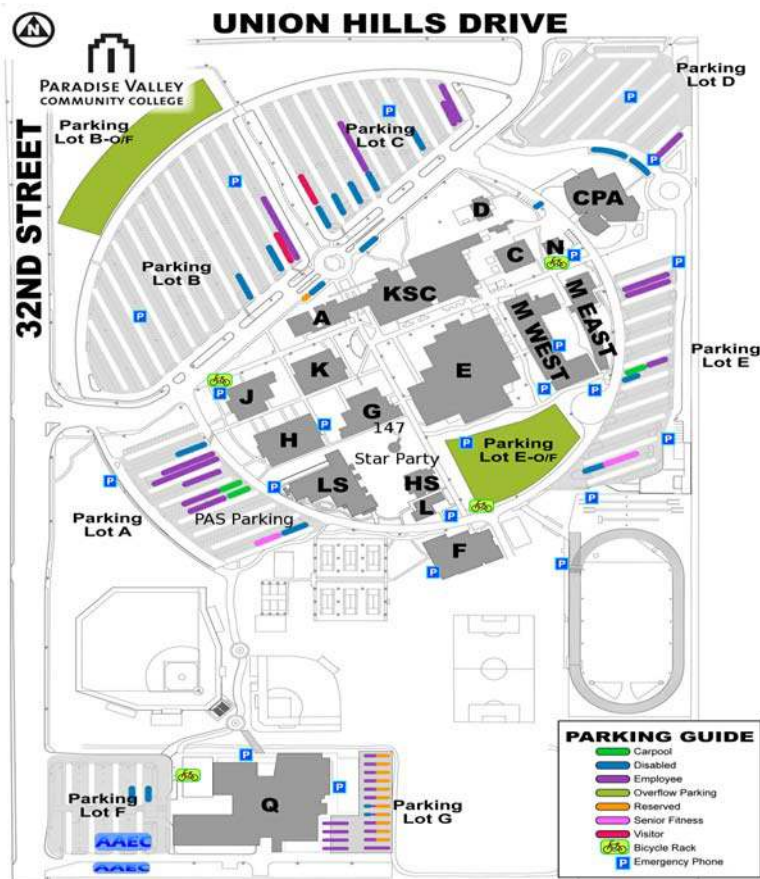
Find out more about spacecraft science experiments in "Basics of Space Flight," a website and book by this author, <http://www2.jpl.nasa.gov/basics>. Kids can learn all about NASA's Deep Space Network by playing the "Uplink-Downlink" game at <http://www2.jpl.nasa.gov/basics>.



In this poster art of Mariner 4, you can see the parabolic reflector atop the spacecraft bus. Like the reflector inside a flashlight, it sends a beam of electromagnetic energy in a particular direction. Credit: NASA/JPL/Corby Waste.

Map of PVCC Main Location

18401 N. 32nd Street | Phoenix, AZ 85032



Map of PVCC Black Mountain

34250 N. 60th Street | Scottsdale, AZ 85266



See page 2 for more details

October 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 PAS Meeting 7pm	5 School Star Party (Private)	6
7	8 Columbus Day	9 CTCA Star Party (Private)	10	11 Public Star Party 7:30pm	12	13 Estrella Observatory (Private) Dark Sky Antenna's (Private)
14 Telescope Workshop at Bookmans	15	16	17 ASU West Star Party	18 Black Mountain Star Party	19 (Private) Star Party at DBG	20 Public Astronomy Day in Carefree
21	22	23 CTCA Back up date	24	25	26 Meeting of the Minds	27 (Private) Party for Halloween
28	29	30	31 Halloween			

Don Boyd
PAStimes Editor
3039 W. Peoria Ave 102-188
Phoenix AZ 85029

To:

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

2012-2013 PAS GUEST SPEAKER LINE-UP

By Terri, Event Coordinator Events@pasaz.org

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

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

Dec 6: Mike Marron "Galactic Jets & Cosmic Evolution"

Jan 3: James Ashley "Meteorites on Mars"***

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What's Up For October

By Rod Sutter, PAS Past President

Name	Date	Rise	Set
Mercury	10-15-12	08:23	18:47
Venus	10-15-12	03:35	13:15
Mars	10-15-12	10:05	20:05
Jupiter	10-15-12	20:44	10:54
Saturn	10-15-12	07:12	18:24
Uranus	10-15-12	17:04	05:20
Neptune	10-15-12	15:29	02:33
Pluto	10-15-12	12:11	22:27

All Times Arizona Time

October 15 2012

Sunrise: 06:32

Sunset: 17:53

Full: September 28



Q3: October 8



New: October 15



Q1: October 21

